THE

physical therapy

REVIEW

Volume 35 - Number 7 July 1955

A System of Joint Measurement – STORMS

Therapeutic Treatment After Operations for Congenital Heart Diseases – REICH

Smillie Board—A Quadriceps Exerciser – ALLIS

Physical Therapy Records – DEMPSEY

Sitting Brace – KEELER, CROTTY, and BRDLIK

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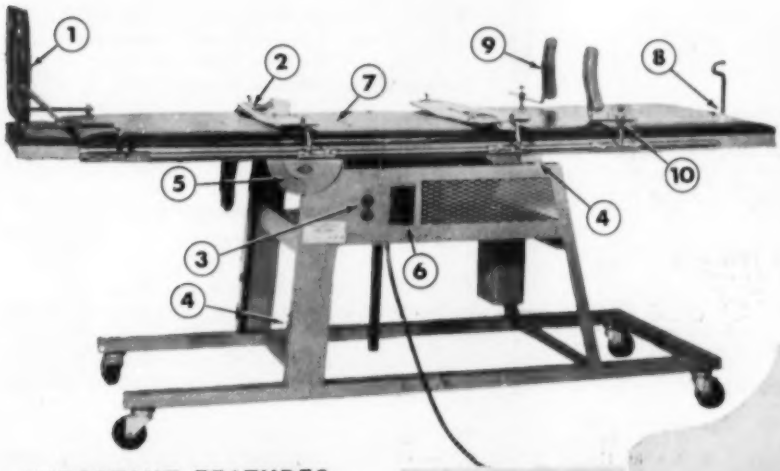

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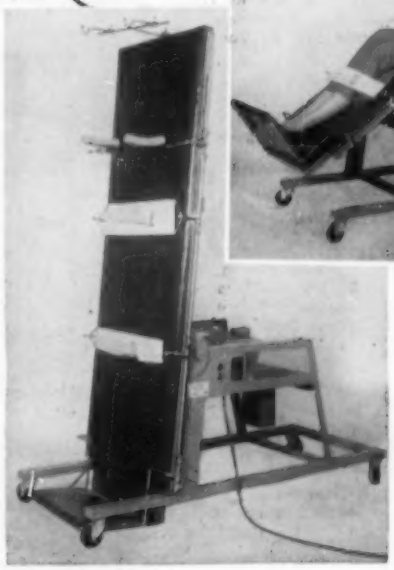

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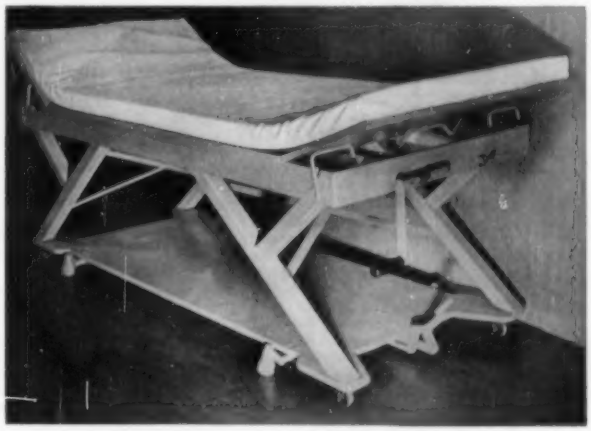

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*Read: Archives of Physical Medicine & Rehabilitation May, 1955, pages 282-287

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"DIG DEEP, PUPPIES IN THE BOTTOM"

This silly expression has perhaps had more influence on my life than the more erudite ones from our poets, statesmen and philosophers.

It seems quite some years ago two teen-aged boys more or less bummed their way from the East toward California. They would have a few days of farm work and a few of hiking ever westward on seldom traveled, ill-marked roads. Losing themselves in Southern Colorado they found themselves in an Indian Reservation but being boys and personable they were soon welcomed as guests of the tribe.

Soon they were sitting beside the Chief around the fire over which hung a bubbling pot, the sole cooking utensil, holding a meal for a dozen or so Braves. Following the Chief's example they reached with hands none too clean into the pot to withdraw hot succulent gravy-saturated chunks of meat which each boy devoured in successive helpings.

About the fifth round the old Chief counseled with the equivalent of: "Dig deep, puppies in the bottom."

For thirty years this anecdote has given me an inner quiet chuckle. Yet too in serious moments it has suggested that I "dig deep for puppies" no matter whether it is a feast of food or knowledge.

In my hobbies and professional work alike I have found the "puppies" — the real rewarding goodies — by "digging deep," deep in the study of the works of others, deep in experimentation, deeply by trial and error.

———o———

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The Physical Therapy Review

Official Publication of The American Physical Therapy Association

Vol. 35 July 1955 Number 7

A System of Joint Measurement

Taught at the School of Physical and Occupational Therapy of the State Insurance Fund of Puerto Rico

Harold Storms, M.D.

Joints and limbs are measured so that limits of movements and nutrition of muscles can be recorded. The measurement should be expressed in such a way that a mental picture can easily be formed of the position of the joints as they demonstrate their lack of normal movement. It should be admitted that all measurements on a yielding surface such as the human body cannot be absolutely accurate, but if they are made by the same person and with the same equipment and with care, they will be accurate enough.

It is only by referring to original measurements and those done during treatment, that one can be sure whether improvement has occurred, is occurring, or that there has been no change. Measurements must be made of movement of a joint or limb on admission to treatment, during the course of treatment, and on discharge from treatment. Measurements must be made as exactly as possible, and not stated in terms such as: "slight improvement," almost normal," "limited movement," or percentages of movement (except subastragaloid joints).

The goniometer should have two equal arms at least six inches long; and in measuring angles of larger joints such as knees and elbows, one has to be constantly on the watch that each arm is parallel to the center line of the limb before the number of degrees is recorded.

The joints most commonly measured are: The jaws, the neck, the elbows, the back, the hips, the knees, the ankles, the wrists, and the fingers. They are measured as follows:

Jaws

Measurement of the jaws is recorded by the number of inches or fraction of inches of the separation of the front teeth; that is, the number of inches of separation on *opening the mouth*, or the number of inches of *failure to close*.

Neck

The neck is most easily measured by the number of inches from the point of the chin to the top of the sternum, in both *forward flexion* and *backward flexion*. *Rotation of the head* is measured by the number of inches from the point of the chin to the tip of acromion on each side. *Lateral flexion* is measured by the number of inches from tip of ear to tip of acromion.

Back

Measurement of back movement may be done with patient *standing* or *lying* in bed. If *standing*, forward flexion is measured by the number of

Medical Director, School of Physical and Occupational Therapy, Commonwealth of Puerto Rico, State Insurance Fund, San Juan, P.R.

inches from the tip of the fingers to the floor in forward flexion; if *lying*, the number of inches from the tip of fingers to toes on assuming a sitting position. *Lateral moton*—the number of inches from the tip of the fingers of each hand to the floor. Lateral motion with the patient in bed is easily measured by the number of inches from the outer malleolus to the tip of the fingers of each hand, internal malleoli touching. In all these measurements, the knees must be fully extended.

Hip

The significant measurements of hip joint are those of *rotation, forward flexion,* and *abduction.* These are best made with patient lying on the back with the feet together both internal malleoli touching. The number of inches, with the thighs being flexed, and the knee being *flexed,* from the upper border of the patella to the point of the patient's chin is measured. Each side is done so that the difference can be noted. The same measurement is taken with flexion at the hips and the knees *extended. External rotation* is measured by both knees being flexed, the heel being brought close to the nates and both thighs externally rotated. The difference can be noted by measuring in inches from the middle of the superior border of the patella to the bed, each side being measured for comparison. *Abduction* —one arm of the goniometer is held parallel to the middle of the body, other following midline of thigh. A more accurate way is to have one arm across the two anterior superior spines and the other along the midline of the thigh.

Knee

Measurement of the knee is made with the patient lying on the back or sitting in a chair, the number of degrees of flexion noted, using a goniometer. In extending the knee, the number of inches of *lack* of full extension is noted. The measurement is then expressed as a fraction, e. g., $^{50}/_{15}$, where the numerator equals the degrees of flexion, and the denominator equals the degrees lack of extension; e. g., $^{50}/_{50}$ would mean no movement with the joint fixed at 50° flexion.

Ankle

Measurement of the ankle is made in *dorsiflexion* and *plantar flexion,* the foot at right angles to the leg constituting the zero point. The number of degrees from this position to the limit in each direction is recorded. *Inversion* and *eversion* of the foot are measured by one arm of the goniometer being held over and parallel to the tibia, the other arm following the line of the foot; that is, of the metatarsal of the first toe. *Subastragaloid joint* movement is to be estimated as compared to the other side in percentage.

Shoulder

Movement of the shoulder is recorded in *forward flexion, abduction,* and *external and internal rotation. Forward flexion* is measured by having the patient face 90° from the operator, one arm of the goniometer held parallel with the center line of the trunk, the other arm along the center of the upper arm as it goes up in forward flexion. *Abduction* is measured the same way with the patient facing the operator.

NOTE: Sometimes, weakness of the muscles gives difficulty in lifting the weight of the arm. Measurements should then be taken in both standing and lying positions.

External rotation at the shoulder is to be measured with the elbow held to the side of the body, the forearm pointing forward at an angle of 90° to the front of the body, and then the forearm rotated externally to the fullest extent. One arm of the goniometer is held at 90° to the front of the body, the other arm follows the forearm.

Internal rotation is best expressed as ability to put hand in hip pocket with palm anterior, or the number of inches to or past the trocanter by the thumb.

Elbow

The elbow is measured with the patient sitting, standing, or lying. The number of degrees of *flexion* being recorded over the number of degrees of lack of full extension. (See knee measurements) *Supination* and *pronation* are measured with the forearm held pointing straight forward, elbow at 90°, thumb up. *Measurement*— the hand palm up, one leg of the goniometer across the palm, the other hanging down perpendicularly. *Pronation*—is measured with the forearm in the same position, one arm of the goniometer across the dorsum of the hand, the other hanging perpendicularly.

Wrist

Wrist movement is measured as *palmar flexion, dorsiflexion, radial deviation,* and *ulnar deviation.* The first two are measured using the

anatomical position as zero. One arm of the goniometer is in line with the center of the forearm; the other right along the side of the hand in line with metacarpal of middle finger, in palmar flexion, and also in dorsiflexion.

In *radial deviation*, one arm of the goniometer is held along the middle line of the forearm, the other along the line of the metacarpal and phalanges of the middle finger. The number of degrees from the anatomical position is taken as the amount of movement in either direction.

Metacarpal phalangeal, and phalangeal joint movements are measured: the number of degrees flexion being recorded as the numerator and the number of degrees *lack* as the denominator. See knee.

The measurement, however, that gives the best idea is the number of inches which the finger *lacks* from touching the *base* of the palm or the *center* of the palm. When these measurements are given, it is easy to picture the joint movement. These figures should give the number of inches from each place on extension. In each case it must be mentioned that the *base* of the palm or the *center* of the palm is meant.

It will be noted that many of the measurements are to be made with a tape, and expressed in inches. The reason for this is that goniometer measurements are notoriously inaccurate unless most carefully made by one who is doing considerable amount of measuring with this instrument.

Measurement of *circumference of limbs* is important where for any reason there may be atrophy, actual or possible, or edema.

All measurements of circumference for purposes of comparison at different times are to be made at the *same level of the limb*. For instance, measurements of circumference of the calf are made at definite distances from the upper border of the patella. If many measurements are to be made here over a period of time, it is advisable to cut a stick or block of wood so that these longitudinal measures may be easily made and not forgotten.

Measurements of circumference of the thigh are to be made at a definite distance above the upper border of the patella, and this to be recorded as suggested.

The same caution applies to measurements of the upper or lower arm. These are always to be made at the same level, the upper arm from a known distance from the tip of acromion, the forearm from a known distance from the inferior end of the radius.

*Therapeutic Treatment After Operations for Congenital Heart Diseases**

Sabine Reich (Western Germany)

There is a constant increase in the operations for congenital diseases of the heart. Pre- and post-operative treatment by physiotherapy would appear essential and desirable. The following report deals with our experiences in Germany.

The Tetralogy of Fallot comprises the following cardiac abnormalities:

1. Pulmonary stenosis.
2. Riding aorta.
3. Ventricular septal defect.
4. Hypertrophy of the right ventricle in consequence of the three preceding anomalies.

Teacher of Physical Therapy, University of Göttingen.

* Read at the First Congress of the World Confederation for Physical Therapy, London, September 1953; reprinted from Physiotherapy, Vol. 40, No. 1 (January 1954), Journal of the Chartered Society of Physiotherapy.

The especially complicated history of cardiac development accounts for this abnormality as well as others. The fact that it is not met more frequently in clinics is often due to children failing to survive the incompatible radical transformation of the blood circulation.

The children suffering from Fallot's tetralogy are known as 'blue babies,' i.e. children suffering from 'morbus caeruleus,' the symptoms of which are striking cyanosis of skin and mucous membrane, especially in the periphery of the body; clubbing of the fingers; orthopnoea at the slightest effort and markedly reduced efficiency. Often the children can walk only a few yards. The transformation of the circulation results from the anatomical conditions; on the one hand, from the 'riding aorta' and the ven-

tricular septal defect and, on the other, from the pulmonary stenosis.

With every systole of the ventricle, part of the venous blood flows directly back into the systemic circulation. It is only the remaining part that gets into the circulation of the lungs and finally to the arteries. In severe cases the intensity of the current within the pulmonary circulation may be less than the general venous pressure. The consequence will be that the body is only poorly supplied with oxygen.

For a long time an effective therapy was unknown. The operation developed by Blalock and Taussig brings about a connection between the left subclavian artery and the pulmonary artery beyond the stenosis of the latter. Through this anastomosis the poorly oxygenated blood of the general circulation partly flows through the lungs for a second time, thereby making more oxygen available to the tissues via the arterial system.

Endotracheal anaesthesia is administered during the operation. The thorax is opened at the level of the third or fourth rib. Comparatively large sensitive places are touched such as the pectoralis major, serratus anterior and latissimus dorsi. The pulmonary artery is exposed and enough of the subclavian artery is cleared to provide a length of it sufficient to reach the pulmonary artery. It is then divided and inserted into the pulmonary artery (Blalock).

Post-operative treatment will be successful only if the children know the physiotherapist treating them and if they can trust her and are instructed in the proposed exercises. Therefore it is essential that before the operation the physiotherapist and the child should get to know each other. Pre-operative physical treatment should take into account the consequences of the operation, i.e. shock arising from the transposition of the circulation and the weakening effect on the child of unproductive coughing. Strain should be avoided. Records should be kept of the rate and depth of respiration, type of respiration, movements of the thorax during respiration and chest measurements taken during maximal inspiration and expiration, so that they can be compared with those taken six months later. Any deformity such as scoliosis should be noted. Older and less weak children may be examined while standing.

All children operated on in the University Hospital of Göttingen showed shallow rapid respiration, with no pause between inspiration and expiration. The respiration was chiefly abdominal; there were no other movements of the thorax and no measurable difference between breathing in and out.

We noticed relaxed abdominal muscles and tightened pectoral muscles. In two-thirds of the cases we noticed a slight scoliosis with the convexity to the right, caused by the fact that these children mostly sit. Before the operation deep breathing exercises should be avoided as they are found to be too trying to the circulation.

We prepare for our post-operative treatment by teaching the child short sentences with a great number of specially desired vowels and consonants. The consonants M and V, spoken in a reiterated way, help to loosen secretions in the lungs. These consonants are called the 'Sounders.' We also know that explosive sounds, such as B, P, T, K ease the delivery of the secretions from the lungs after the operation.

In the pre-operative treatment gentle exercises with both arms should be done in order to make the lifting of the arms quite natural when the patient is required to lift them after the operation. We see that essential treatments are carried out before the operation in order to bring about mutual understanding between the child and the therapist, so that the post-operative treatment is carried out smoothly and with confidence. After the operation and as soon as it wakes up, the nurse in charge or the therapist instructs the child to breathe deeply. Twenty-four hours after operation the child will be sat up in bed.

If the child shows an inclination to cough, we welcome it as it removes the abundant secretions, and we also support the small thorax to relieve the strain of coughing. The retention of secretions may be followed by very dangerous complications. The abnormal quantity of secretions after operation is caused by the inaction of the lung during the operation, which lasts 3–4 hours, by the transposition within the circulation in the lungs and the distension caused by the intubation. Thus the loosening of these secretions and their expectoration are urgently necessary.

In order to initiate the desired expectoration without weakening or over-exerting the child, we repeat the 'sounders' and explosive consonants in short sentences as the child had been taught. There is no strain, no deepened breathing, but the desired expectoration will follow. It is left to the ingenuity of each therapist to think of new sentences that will be amusing and appropriate to the child's comprehension. In due course the recitations will be assisted by illustrative manual movements, the affected part being included without the child noticing it. The importance of the pre-operative treatment will be evident after the first days of treatment.

Each exercise in speaking and humming will be carried out once, followed by 3–4 breathings without instruction, care being taken to avoid strain which would be indicated by shortness of breath. During the first few days treatment should not last longer than 5–7 minutes, and should be carried out twice a day. Sensitive and plaintive children will often need half an hour before the right state of mind to carry out the desired exercises is induced. Patience and perseverance are needed and will be rewarded in the end. During a fit of coughing the thorax is supported by firm pressure. It goes without saying that the intensity of the treatment depends on the general condition of the patient. In favourable cases we begin with exercises to the legs at the end of the first week, but it is necessary to point out that the stenosis of the pulmonary artery and the great effort of the right ventricle of the heart continue, hence an intensified venous demand ought to be avoided, and the strain must be as slight as possible.

If the post-operative progress is normal the children are allowed to get up after 14 to 16 days, great care being taken not to overtax them. Up to the day of discharge—about four weeks after the operation—accelerated walking, going upstairs and downstairs, ought to be practised in conjunction with breathing. We are often amazed how quickly the circulation adapts itself to the new conditions and how rapidly children recover from the serious operation.

Another point regarding the treatment needs mentioning. As stated above, the subclavian artery is divided and inserted into the pulmonary artery. In most cases the left subclavian artery is concerned. There are, however, different varieties of these congenital deformities in the vascular system. For instance there may be a transposition of the aorta to the right and then the right subclavian artery must be transplanted. Besides regions in the neck and thorax the subclavian artery supplies the arm. Following the division and transplantation of the artery, the blood supply to the arm is reduced, and we compare the state of things with that of an arterial embolism. No pulse can be felt in the arm, and the general temperature is lowered. The child will try to avoid any movement of its arm which will ache and feel heavy. The blood supply to the arm will now be provided for by the anastomosis of the branches of the subclavian artery with those of the axillary artery. In order to promote the enlargement and development of the collateral circulation, it is our task to exercise the muscular function of the forearm and the hand beginning on the second day. No fixed régime of arm exercises can be prescribed for the first 10 days. From the beginning, however, the child can be tempted to try to grasp or catch things. Evoking active movements of the shoulder is difficult, being impeded partly by the heavy weight of the arm and partly by the movements of abduction and elevation causing stretching of the scar which runs sideways round the thorax.

Any movement, even if assisted, will cause pain. However, the therapist must carefully yet firmly persuade the child to lift its arm forwards and sideways. These movements are necessitated by the partial division of the pectoralis major and latissimus dorsi muscles, and the tendency of the muscles and the scar to contract. If during the post-operative treatment the circulation should be inadequate for the muscles, physical measures such as hydrotherapy must be applied. When the child is discharged from the hospital, the mother should be told that the child must be encouraged to use the arm as much as possible. By comparison with the entire issue, the weakness of the arm appears to be of little importance. But it must be remembered that inactivity of the arm will lead to atrophy of the corresponding muscles of the shoulder, which in turn will influence the spine and with it the entire mechanics of the body. Realization of these implications necessitates the correction of the whole carriage of the child, using all kinds of exercises and stretchings as soon as the child's state of health permits.

The other congenital cardiac disease dealt with at the University Clinic is the patent ductus arteriosus. This ductus usually closes within the infant's first month of life. It creates a connection between the pulmonary artery and the aorta (somewhat like the artificial connection of the Blalock-Taussig anastomosis). During foetal life the circulation in the ductus comes from the pulmonary artery. The blood avoids the lungs, the exchange of gas being brought about in the placenta. After birth the conditions of pressure change and the circulation works in the other direction, the duct remaining open. Unlike the Fallot tetralogy more blood flows through the lungs than through the body. The reduced efficiency of the general circulation is, however, partly compensated by the greater oxygen content of the arterial blood, for some of the blood constantly passes through the lungs for a second time.

Children afflicted by this kind of anomaly are far more robust than those described above. With

them, too, the strain imposed upon the right ventricle is considerable. They will easily tire. Slight efforts such as walking upstairs and downstairs cause orthopnoea. The circulation and breathing only gradually settle down during rest periods. There is no cyanosis during the state of rest. Moreover, the little patients have a bad carriage and contraction of the pectoral muscles. The operation aims at the ligature of the duct; anaesthesia and the line of incisional approach are very similar to that described for the Fallot tetralogy. The therapeutic treatment corresponds with that already mentioned, except that the limit of strain lies higher. The treatment of the arm aims at restoring function which is disturbed because of the muscles affected in the operation. Children suffering from this defect are allowed to get up earlier and are discharged from the clinic after a shorter time than the other patients.

This paper illustrates that a great number of children sent home are still in need of therapeutic treatment for some time.

SUMMARY

This is a report of the pre- and post-operative treatment of the Fallot tetralogy and the patent ductus arteriosus. The essential points are:

1. Pre-operative preparation and instruction.

2. Removing any post-operative blocking of bronchial tubes by secretions, and avoiding too great a strain on the not yet compensated circulation.

3. Treatment with cardiac exercises similar to the treatment given to mitral stenosis after compensation.

4. Gentle progressive exercises to the arm, the blood supply of which has been reduced, or to the arm affected by the incision of the operation.

5. Prophylactic treatment of later complications by exercises and attention to posture.

Smillie Board — A Quadriceps Exerciser

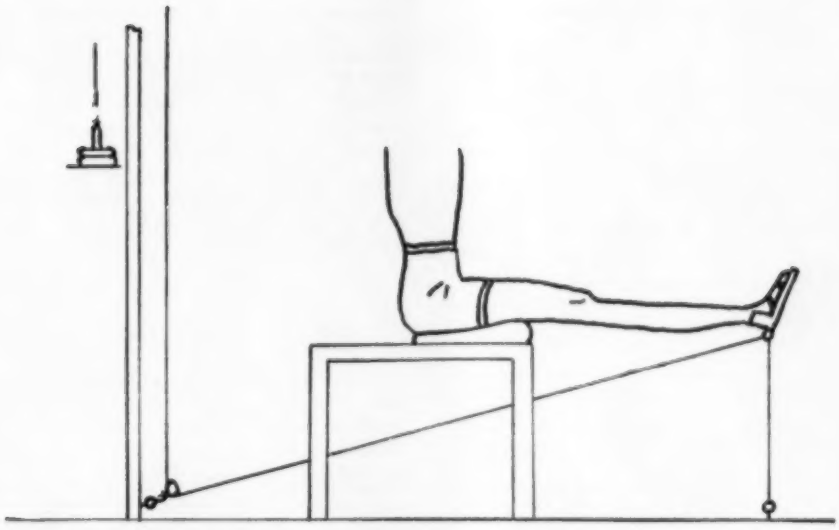
John B. Allis, B.S.

Progressive resistive exercises to the quadriceps muscle may be given in many ways and with the use of several different types of apparatus. It is the common practice to administer such exercises by attaching weights to the De Lorme Boot or by some similar means. When the exercises are to be administered a few days postoperative, such a procedure using conventional equipment may be undesirable. When the knee is flexed to 90 degrees, the weights, the boot, and the leg itself are supported by ligaments unprotected by muscles and may result in a reactive synovitis, which delays recovery and may even permanently injure the knee (Smillie). To overcome this gravitational pull during the phase of quadriceps relaxation, the Smillie Board has been devised. It is the purpose of this paper to discuss its use at this hospital.

Assistant Therapist (Reserve), Physical Therapy Department, U. S. Public Health Service Hospital, Staten Island, New York.

The Smillie Board consists of an upright support with a pulley arrangement which permits active resistance to the quadriceps pull in a direct proportion to the contraction of the muscle group. It is unique in that when flexing the knee, the resistance to the heel and quadriceps diminishes. When the knee reaches a right angle and the quadriceps is relaxed, the only pull on the part (due to gravity) is that of the lower leg itself plus the one-pound boot attached to the foot. As the knee is extended, the resistance progressively increases due to the pull of the cord attached to the heel.

When instructing a patient in the use of this method, care must be taken in placing him in the proper position. After the patient is seated on the table in front of the Board, the boot with the attached hook at the heel is strapped to his shoe. This in turn is attached to the pulley-hook found on the cord which passes beneath the table. The



Side

Front

Figure 1. The patient must be seated in such a position that when the knee is fully extended, the cord forms a true perpendicular to the floor. The extremity being exercised (right or left) and its length determine where the patient must sit during the exercise period. With the knee in the extended position, the cord must be checked from two views to insure that it forms a true perpendicular—side and front aspects.

patient must be so seated that when his knee is fully extended, the cord forms a perpendicular to the floor. It must not lean either to the right or to the left. These points must be carefully checked before any weights are added to the cord.

Once the position of the patient is correct, resistance may be added to the cord. This is done by placing weights on the attachment found at the end of the cord at the rear of the Board. The desired amount of weight for each exercise may be had by adding the correct amount of weights to the cord in the rear.

The table on which the patient is seated should be covered by a mat or cushion designed in such a way that the knee is elevated above the hip joint. A small stool is supplied for the other foot.

The De Lorme procedure of progressive resistance may be successfully used with this apparatus. It provides an excellent method of building up to the ten-times maximum and of determining the one-time maximum. Care must be taken to insure full extension of the knee with each quadriceps setting if full benefit of the resistance is to be realized. (Smillie)

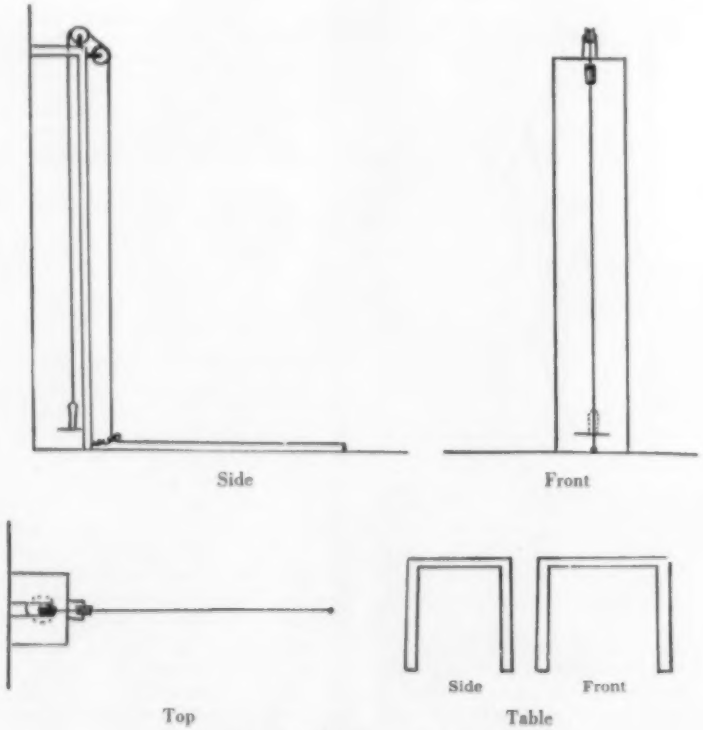
Frequently, the physical therapist is asked for the progress of an individual patient. With the Smillie Board, the amount of resistance to the quadriceps is *not* the weight found on the cord at the rear of the Board. Through observation it can easily be seen that when a patient fully extends his knee, and the cord falls perpendicular to the floor, a right triangle is formed. The cord from the heel of the foot to the floor forms the

WEIGHT EQUIVALENT CHART

Weight on cord	Resistance at heel (Including 1½ pounds for boot)
5/8	2.375
1¼	3.25
1⅞	4.125
2½	5
3⅛	5.87
3¾	6.75
4⅜	7.625
5	8.5
5⅝	9.375
6¼	10.25
6⅞	11.125
7½	12
8⅛	12.875
8¾	13.75
9⅜	14.625
10	15.5
10⅝	16.375
11¼	17.25
11⅞	18.125
12½	19
13⅛	19.875
13¾	20.75
14⅜	21.625
15	22.5

Figure 2. (left) It is our practice to transfer the patient from the Smillie Board to the DeLorme Boot when he reaches a lifting power of twelve pounds. At this stage it is felt the patient has sufficient power to safely use the boot.

Figure 3. (below) The Smillie Board and patient's table are easily constructed. Scale-drawing of both indicate their simplicity. The model for these drawings was constructed by and is being utilized at this hospital.



SCALE: 1 CENTIMETER = 8 INCHES

base, the other section of the cord becomes the hypotenuse.

Mathematically, the resistance located at the heel of the boot is far greater than the sum of the weights at the end of the cord (Schultz, Sevenoak, Schyler). The amount of resistance for a given weight has been mathematically determined and compiled in a "Weight Equivalent Chart." This includes the weight of the boot (one and one-half pounds). By keeping records of each patient's maximum weight lifted, the figure may easily be transposed to the actual resistance by the use of this chart.

SUMMARY

It is often desirable and sometimes indicated to administer active resistive quadriceps exercises by means other than the De Lorme Boot.

The Smillie Board offers a successful and accurate way to give such exercises, and also to eliminate the undesirable gravitational pull on the extremity.

The resistance afforded by the Board increases in direct proportion to the contraction of the quadriceps.

The actual resistance afforded upon full knee extension is greater than the weight found to be on the rear of the Board.

The resistance found for given weights have been computed and compiled on the "Weight Equivalent Chart" in order to easily transpose a patient's "weight lifted" to his "resistance overcome" by his quadriceps.

A Smillie Board can be constructed in a well equipped hospital.

BIBLIOGRAPHY

1. Smillie, J. S., Dr.; Injuries of the Knee Joint, Second Edition; The Williams and Wilkins Company, 1951, pp 3-15.
2. De Lorme, T. L., M.D., and Watkins, A. L., M.D.; Technics of Progressive Resistance Exercise, Archives of Physical Medicine, Vol. XXIX; pp 263-273; May 1948.
3. Schultz, Sevenoak, Schuyler; Plane Geometry, Revised Edition, The Macmillan Company, 1930, pp 21-94.

Suggestions from the Field

Physical Therapy Records

Mary W. Dempsey

A correct monthly report of number of patients treated, number of visits made, and the number of different treatment procedures applied is important not only in government hospitals where reports of such nature are needed for budgetary and statistical reasons, but is equally important for private institutions, large or small, to justify the number of personnel employed, equipment needed, and supplies to be purchased.

Especially in a large institution, preparation of such a report is a major job unless daily or weekly figures are available and recorded for easy addition. Since these figures are the sum total of the reports obtained from each physical therapist, the bookkeeping work can easily become burdensome and confusing unless uniformity of these individual reports is insisted upon.

Mary W. Dempsey, Chief, Physical Therapy Section, Physical Medicine and Rehabilitation Service, Veterans Administration Hospital, Boston, Massachusetts.

A timesaving method of reporting daily totals of treatments and number of patients treated has been used in the clinics at Cushing Veterans Administration Hospital and the Veterans Administration Hospital in Boston for many years. Since this simple method has been admired by many visiting physical therapists and physicians, this paper is written to introduce the recording system used there.

The principle of the method lies in having a large chart which is divided by horizontal lines into the days of the week, which in turn are horizontally subdivided into sufficient lines for each physical therapist. Vertical lines divide the entire chart into enough columns for reporting the various treatment procedures used, the number of patients treated, and other desired information (Figure 1). In order to use this chart from week to week it is framed under glass like a picture. The entire size of a framed chart which would accommodate nine physical therapists is 26 inches wide by 33 inches high. This is bolted to the wall at suitable height. In a large hospital where there is more than one physical therapy clinic, each clinic may have one of these charts and the totals of the subclinics may be added to the chart in the main clinic at the end

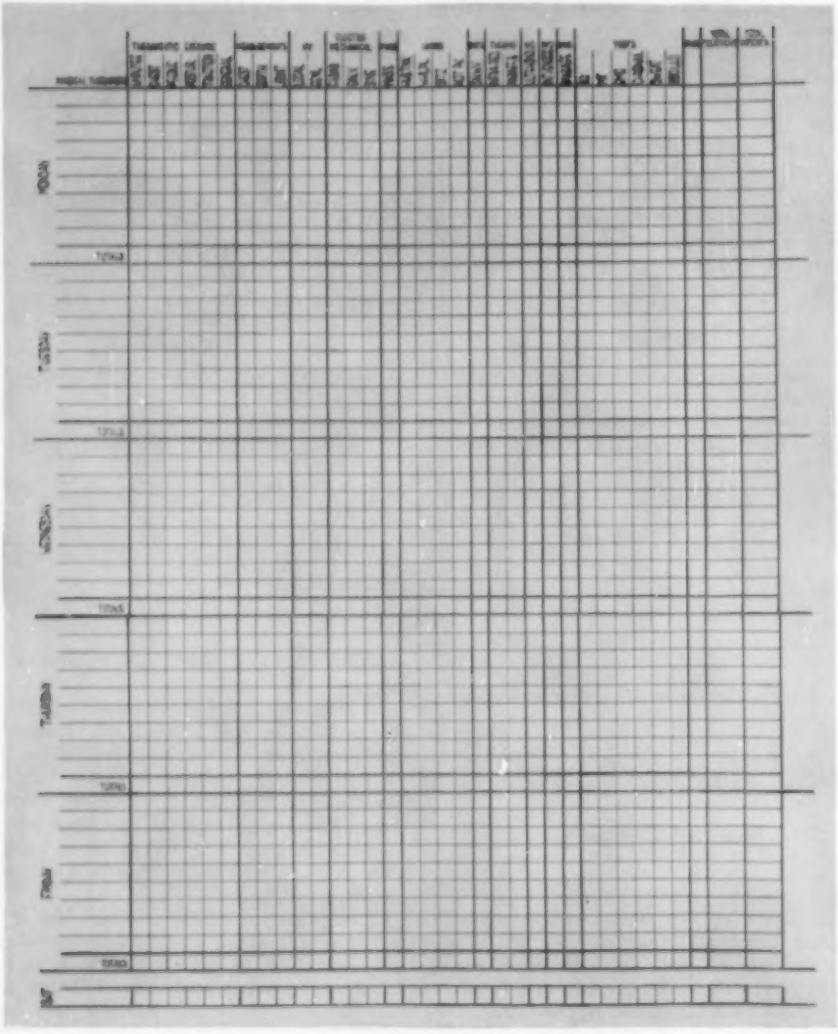


Figure 1.

of each day, placing the name of the branch clinic, such as "Physical Therapy Paraplegia Clinic" or "Physical Therapy Tuberculosis Clinic," in the column with the names of the physical therapists. A special wax pencil is used and the figures are entered directly on the glass. Each physical therapist is responsible for entering her work record every day. The physical therapist in charge of the clinic adds the daily totals which are then transferred to a monthly record sheet and the monthly totals are easily obtained by simple addition. The figures are then quickly erased from the glass with Kleenex or an alcohol sponge. The names of the physical therapists are not written on the chart but are written on the glass after the chart has been framed. This is done so that when a physical therapist leaves, the name of her replacement can be written in without removing the frame.

The headlines of the vertical columns such

TABLE 1

HEADINGS OF PROCEDURES IN VERTICAL COLUMNS

Therapeutic Exercise
- Amputee
- Chest
- Reeducation
- Posture
- Traction
- General

Measurements
- Chest
- Girth
- Joint

Ultraviolet
- Local
- General

Electro-mechanical
- Faradic
- Galvanic
- Sinusoidal

Massage

Hydrotherapy
- Hubbard Tank
- Whirlpool
- Sitz
- Hot Packs

Diathermy
- Short Wave

Thermotherapy
- Infra-red
- Paraffin

Ultrasound

Intermittent Venous Occlusion

Bandaging

Tests
- Reaction of Degeneration
- Muscle Test, Manual
- Electromyography
- Chronaxie
- Sweat
- Oscillometric Test

Other

Total Treatments

Total Patients

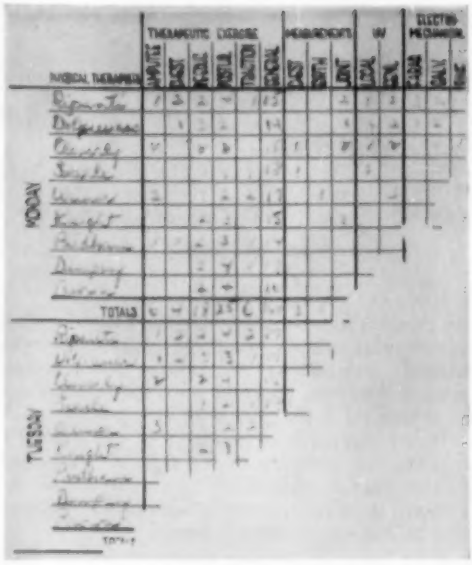


Figure 2.

as "Therapeutic Exercise" and "Measurements" (Table 1) correspond to the monthly report sheet of the Veterans Administration, Form 10-2539. Other institutions may find these subdivisions equally informative and important or may wish to record different data.

The size of the chart depends on the information desired and the number of physical therapists reporting. It should be emphasized that the squares are large enough to permit entrance of figures with a rather thick wax pencil. (We use Blaisdell "China-Marker 169-T.") The spaces of our chart measure one-half inch square.

Figure 2 is an illustration of a sample corner of the chart.

SUMMARY

A master chart is presented which permits daily recording of treatments and tests given, and the number of patients treated in a physical therapy department. The method is simple and timesaving. Monthly and annual reports can easily be obtained from the daily entries, which are written with a wax pencil on a glass surface and, therefore, easily erased so that the chart can be used indefinitely.

Dues Notice

Annual dues were payable on May 1st. Your prompt response will be appreciated. The Bylaws require that members whose dues have not been received by August 1st shall be suspended from membership.

May we also call to your attention that according to the Bylaws "any active member not actively employed in physical therapy may, on application to the Board of Directors and on approval thereof by the Board, be made an inactive member."

Suggestions from the Field

Sitting Brace

Keith C. Keeler, M.D., Miriam Crotty, B.S., and Joseph Brdlik, B.S.

As in other similar facilities, the Rehabilitation Center of Summit County is continually confronted with severe deformities complicating chronic illnesses. Staffs of rehabilitation centers must be alert to possible applications of new and different approaches to improve the patient's capacity for self-care in the face of seemingly insurmountable difficulties. An example of an unusual problem requiring an unconventional type of brace is presented here.

A 34 year old woman whose severe hip and knee flexion contractures prevented the sitting attitude was referred to this Center. Mrs. F's symptoms began in June 1948, when she began to stagger and to have trouble getting up from a sitting position. A diagnosis of multiple sclerosis was made. The disease was progressive to October 10, 1953, when she was initially evaluated at the Rehabilitation Center of Summit County. She had been bedridden for two years. Her only activity was self-feeding in a side-lying position. Her knees were flexed acutely on her chest. Passive range of motion of both hips and knees could be accomplished to about 80 degrees with much difficulty. A 3-cm sacral decubitus and 2-cm superficial ulcers over the greater tuberosities of the femora were present bilaterally.

She was put on a conservative program three times a week for a three-month period, consisting of Hubbard Tank followed by manual stretching. Little gain was made, however, on the range of motion in the hip and knee joints. The referring orthopedic surgeon considered tenotomies and capsulotomies but preferred to observe further results through conservative therapy.

In order to gain functional advantage, an unconventional brace was devised by the staff of the Rehabilitation Center to maintain hips and knees at 90 degrees, thus permitting her to function from a wheel chair (Figure 1). Such a brace, having turn buckles at both the hip and knee joints (Figures 2a and 2b), would simulate wedging casts and would provide constant, adjustable traction. To accomplish this, the pelvic band and thigh cuffs were reversed to the anterior aspect of the ilium and thigh, with posterior calf cuffs acting as a counterforce below the knees. To minimize pressure points, the bands were broadened and well padded with felt. The illustrations further describe the detachable knee joints to facilitate putting on this brace (Figure 3).

Mrs. F. was able to tolerate the brace and sit in her wheel chair for increasing periods of time, beginning one hour a day. Thus, she was able to increase her self-care and undertake a few housekeeping activities which the fetal bed position had prevented. The sacral and greater tuberosity decubiti have healed and no new ulcers have developed. Ischial tuberosities, likewise, have been protected through constant inspection and by foam rubber seat cushion.

It is suggested that adaptive bracing procedures such as have been outlined can be applied to other patients with multiple sclerosis

Figure 1. Brace on Mrs. F.

Keith C. Keeler, M.D., Director, Rehabilitation Center of Summit County, Inc.; Mrs. Miriam Crotty, Supervisor, Physical Therapy Department; Joseph Brdlik, Staff Physical Therapist; Akron, Ohio.

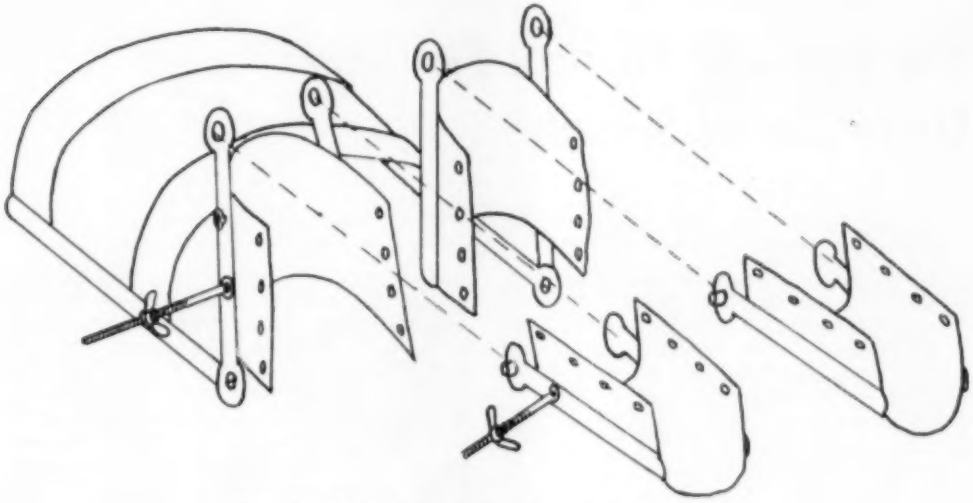


Figure 2a. Brace in sitting position—as adjusted to Mrs. F.

Figure 2b. Brace adjusted for sitting.

or in other diseases with severe musculoskeletal deformities. At present, results seem to indicate the desirability of further research into the problem of special bracing.

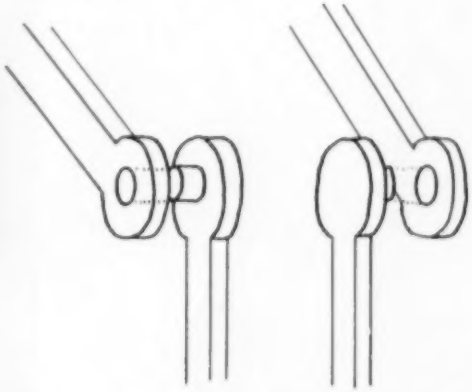


Figure 3. Brace separated at knee joint to show construction.

National Society Expands Camping Program for Crippled Children

A record number of handicapped youngsters are set for the time of their lives in camping programs sponsored by crippled children's societies in every corner of the nation.

Swimming, hiking, picnics, bonfires, group projects, nature study, arts and crafts, and other traditional camping activities will all be part of the program for handicapped youngsters, Lawrence J. Linck, executive director of the National Society for Crippled Children and Adults, the Easter Seal Society, reports.

"At least 1,000 more children will be served in the ever expanding Easter Seal camping program this year. In 32 states Easter Seal Societies will sponsor activites at 48 resident camps and 35 summer day camps for crippled children." He pointed to the booklet, "Guide to Standards for Resident Camps for Crippled Children," published by the National Society, as an example of new goals for establishing high camping standards for crippled children.

The Status of Physical Therapists Under Social Security

Charles T. McCoy

Social Security coverage first became available to most physical therapists January 1, 1951. Prior to that date only those who were employed in private industry or in private institutions operated on a profit making basis came under Old Age and Survivors Insurance.

The 1950 amendments contained at least *four* provisions which could result in extension of coverage to virtually all physical therapists. Coverage was extended to *employees of nonprofit religious, charitable and educational organizations* on a voluntary basis. Through these provisions, if the institution or agency waived its exemption, and at least two-thirds of the employees voted in favor, those so voting and all new employees would be covered by Social Security. The coverage becomes effective the first day of the calendar quarter following the filing of the necessary certificates. The earliest date coverage could be obtained was January 1, 1951.

The opportunity of coverage was also extended to the *employees of state and local governments* beginning in 1951. To make this coverage operative, each state could enter into an agreement with the Department of Health, Education and Welfare for the coverage of certain of its employees. Through this agreement, it was also possible for each of the political subdivisions to also cover groups of its employees. Under the law in effect for the years 1951 through 1954, employees already members of a retirement system could not also be covered by Social Security. However, effective January 1, 1955, this limitation has been removed so that such employees may now, after necessary action by the states and local governments, be brought under Social Security.

Beginning January 1, 1951, *employment for the United States Government* is covered with certain exceptions. The most important of these exceptions applies to permanent employees who are members of the Civil Service Retirement System. During the years 1951 through 1954, most new employees were hired on a temporary indefinite basis and were under Social Security rather than Civil Service Retirement. Beginning in January 1955, most temporary indefinite employees were converted to a career basis and new employees will be hired on the same basis. At present the career employee is covered by Civil Service Retirement, not Social Security. Also excluded from Social Security Coverage are student employees of federal hospitals.

The fourth area in which coverage was extended beginning January 1, 1951 that would affect *physical therapists* is *in the area of self employment.* Although many members of the medical profession continued to be excluded from coverage based on earnings from their own practices, some allied groups were not. The net earnings of physical therapists derived from their own private practice has been covered since 1951. These earnings are reportable for Social Security if they amount to at least $400 in the year. Through 1954, the physical therapist who was employed on a salary basis and also had his own practice would report only enough of this self employment income so as to receive a total credit of $3,600. For instance, if his salary was $3,000 (covered by Social Security) and he in addition had net earnings of $1,500 from his outside practice, he would report only $600 so as to reach the maximum of $3,600. Beginning in 1955, this maximum has been increased to $4,200. The self employed physical therapist reports his net earnings for Social Security purposes by means of his income tax return.

In addition to credit for earnings and self employment covered by the law, credit is also given for military service. Veterans who saw duty in the armed forces between September 15, 1940 and July 1, 1955, are given a wage credit of $160 for each such month of active service.

Old age and survivors insurance benefits are payable only to those persons who are insured. Generally speaking, you are "fully insured" if you have "quarters of coverage" equal to one half of the calendar quarters elapsing after 1950

District Manager, Social Security Administration, Northeast District Office, Philadelphia, Pennsylvania.

Average monthly earnings	Old Age Benefits		Survivors Benefits		
	Worker	Worker & Wife	Widow or 1 child	Widow & 1 child	Widow & 2 children
$ 45 or less	$ 30.00	$ 45.00	$30.00	$ 45.00	$ 50.20
100	55.00	82.50	41.30	82.60	82.60
200	78.50	117.80	58.90	117.80	157.10
300	98.50	147.80	73.90	147.80	197.10
350	108.50	162.80	81.40	162.80	200.00

up to the quarter in which you become 65 or die—whichever occurs first. A "quarter of coverage" is a calendar quarter in which you have been paid wages of $50 or more. A self employed person earns 4 covered quarters every year in which he has net earnings of $400 or more. The minimum needed is 6—this applies primarily to persons becoming 65 before July 1, 1954. The maximum quarters of coverage required is 40. This will apply to persons becoming 65 or dying after 1970. Certain survivors payments are made if the person is not "fully" insured but is "currently" insured. You are "currently" insured if you have 6 "quarters of coverage" within the three years preceding your death.

If you are fully insured and retired, you will be eligible for a monthly benefit at age 65. You are fully retired if your earnings are no more than $1200 per year. If your earnings are between $1200 and $2080, you are partially retired and entitled to only a certain number of payments for the year. You will, however, receive a payment for any month you do not earn $80 even though your annual earnings exceed $2080. At age 72, this retirement test no longer applies and you may receive all your benefits without regard to how much you earn. Additional payments are made to other members of the retired worker's family. Wives at age 65, children under 18, wives at any age if there are children under 18, and dependent husbands at age 65 may receive a benefit amounting to one half of the benefit paid the worker. The maximum payment to the family is $200 or less, depending on the worker's average earnings.

Payments are made to certain members of the family of the insured worker in the event of his death. Monthly benefits are paid for children under 18 which continue until they become 18. In addition, a monthly benefit is paid to the mother who has in her care a child entitled to benefits. Benefits are also payable to the widow when she reaches age 65, and to dependent parents and dependent widowers at age 65 under certain circumstances. A lump sum is also paid on the death of every insured person. The maximum lump sum payment is $255.

The amount of your old-age insurance benefit is determined from your average monthly earnings over a certain period of time. There are several methods which can be used; that which is most advantageous to the individual is always used. Usually under the 1954 amendments, the best method is to take the earnings starting with January 1, 1951 up to the year of death, or age 65. If you continue to work after age 65, such earnings can be used if it will increase your benefits. Up to five years of no or lowest earnings can be dropped out if qualified. The total wages in the remaining years are then divided by the number of months in those years so as to obtain an average monthly wage. The benefit formula is then applied to the average monthly earnings. This formula is now 55 per cent of the first $110, plus 20 per cent of the next $240. The years 1951 thru 1954 may be dropped, and if you have maximum earnings of $4,200 each year after 1954, the maximum old age insurance benefit of $108.50 will be payable.

The table above gives examples of various benefits based on the indicated average monthly wage.

Further information may be obtained from the Social Security District Office in your locality. A pamphlet "Your Social Security" giving additional details may be obtained from this office.

Editorial

As physical therapy continues to expand and as departments grow in size and services rendered, there is apt to be a corresponding increase in problems of organization and administration. Unfortunately perhaps, but true, is the fact that this is one of the results of success in any field. Many of these problems are common to all departments while others are directly related to such things as the size of the department, the type of patient treated or the geographical location of the hospital. Some may prove to be nothing more than "growing pains" which time alone will solve, while others may be intensified as expansion continues.

The fact remains, however, that problems do exist which must be approached if optimum departmental success is to be obtained. And basically, it is frequently true that many of the difficulties can best be approached and a solution reached through the simple medium of good evaluation of the situation and intelligent planning on a long-term basis.

One of the more common of these problems which seems to exist in many departments is that of successful integration of treatment schedules with several other hospital services. No one is more "popular" in the hospital than the patient nor has more demands put upon his time. Frequently this very "popularity" serves as a deterrent to the effectiveness of his treatment and actually retards progress toward recovery. Usually one of two things results from a conflict of department's demands on the patient's time — either he must wait long periods in one area or another, or some of the necessary care is unfortunately given too quickly or not at all. In either case, it is always the patient who suffers; the one person to whom most consideration should be given.

Interdepartmental cooperation is not difficult to achieve if the simple expedient is taken to face the situation with three major objectives in mind. First, it requires intelligent understanding of every other service supplied by the hospital in regard to needs, objectives, and limitations. Second, there must be definite preplanning for appointments made in light of each patient's particular requirements. Third, every other service must be informed of the

Editorial

specific problems of the physical therapy department and their co-operation requested in light of these problems.

Many times the conflicts which exist are there primarily because of misunderstanding and lack of information. When other service's demands affect the smoothness of operation of a physical therapy schedule, it is imperative that an evaluation of the reason for the difficulty be made. Often it will be found that an unpleasant situation might have been avoided if both groups concerned had simply exchanged information regarding the reasons for delay or change in the time of a patient's availability. This is a two-way street and it is an administrative responsibility of every service to keep other professional groups informed of their standard procedures, physical demands, time problems, and individual limitations requiring a change from a set routine.

If this responsibility is recognized and intelligently carried out as a continuing duty by every service, efficient cooperation should result with a subsequent increase in the level of patient care.

Association Activities

Marriages

Miriam Boystel of Cleveland, Ohio, to Robert Adams, Cleveland.

Nan Currier of Cambridge, Mass., to W. E. Hilfrank, Norfolk, Va.

Louise M. D'Ercole of Springfield, Mass., now Mrs. Louise D. Kopf, Hartford, Conn.

Barbara J. Ducharme of Denver, Colo., now Mrs. Barbara D. Graves, Denver.

Audrey Gay Dunbar of Pittsburgh, Pa., to Robert Stoner, Pittsburgh.

Edna L. Dunnebeck of Modesto, Calif., now Mrs. Edna D. Cox, Willits, Calif.

Ilanon V. Dycer of Temple City, Calif., now Mrs. Ilanon D. Roders, Arcadia, Calif.

Betty L. Fleming of Jeffersonville, Ind., now Mrs. Betty F. Cain, Jeffersonville.

Alice M. Goscin of Toledo, Ohio, now Mrs. Alice G. Knight, Toledo.

Mary A. Guthrie of Ft. Hood, Texas, now Mrs. Mary G. Lewis, Santa Barbara, Calif.

Matilda F. Holanetz of Centerdale, R.I., to Pasquale J. Perroni, Centerdale.

Mary Katramados of Lowell, Mass., now Mrs. Mary K. Spanos, Lowell.

Alice Knight of Syracuse, N.Y., to William F. Voll, Buffalo, N.Y.

Beverly J. Mitchell of Ashland, Mass., now Mrs. Beverly M. Mazarella, Bayside, N.Y.

Kathleen G. Ohlmann of Grand Rapids, Mich., to Richard M. Rodney, Honolulu, Hawaii.

Christie A. Peterson of Ann Arbor, Mich., to Ashton D. Shoop, Manchester, Conn.

Alice M. Pettigrew of Chicago, Ill., now Mrs. Alice P. Okrafosmort, Gary, Ind.

Elizabeth Schnake of Louisville, Ky., to Paul A. Ropp, Cincinnati, Ohio.

Albert F. Seavey of Aurora, Ill., to H. D. Anthony, Manhattan, Kan.

Gloria H. Spano of New Orleans, La. to Bruce Blackburn, Lake Forest, Ill.

Margaret Steele of Dallas, Texas, to Eugene L. Smith, Dallas.

Frances Williams of West Haverstraw, N.Y., to S. D. Silkand, New York, N.Y.

Arthritis and Rheumatism Newsletter Features Conference Meeting

The April 25th issue of the Arthritis and Rheumatism Newsletter used the space for its leading item to announce the annual conference of the Association and to call attention to the special group meeting arranged for members who work primarily with arthritis. The Foundation's Medical Director, Dr. Russell L. Cecil,

requested that local chapters of the Foundation support attendance of their physical therapists at the meeting.

On registration each member was given a copy of the revised edition of the Manual on Arthritis and Related Disorders for Nurses, Physical Therapists and Medical Social Workers, issued by the Medical and Scientific Committee, Arthritis and Rheumatism Foundation.

An Invitation from Norske Sykegymnasters Landsforbund

Stortingsgt. 6, III,
Oslo, April 30, 1955.

We wish to invite the members of your Association to our Congress in Oslo from 12th to 20th of August 1955. We enclose the preliminary program, which is inserted in the March and April numbers of our Journal with some changes.

A number of lectures will be held with regard to prophylactic work in the hygienic field, and in this connection demonstrations of prophylactic work (movements, gymnastics) and films will be given.

Two days are reserved for internal affairs and the rest of the program will be devoted to rehabilitation.

Visits to rehabilitation centers, sight-seeing tours, a luncheon and a dinner will be arranged during the Congress.

The fee will be n. kr. 70.—and can be paid at the time of the registration on August 12th.

The admittance to the lectures will be free of charge for an appointed representative from each member-organisation.

We should be glad to receive the applications within July 1st.

FREDERIKKE NÓRBECH
Secretary

Midlertidig program for Norske Sykegymnasters Landsforbunds landsmøte (kongress) i Oslo fra 12. — 20. august 1955

Fredag d. 12. august. Registrering kl. 9.00, Åpning kl. 10.00.

Foredrag — Demonstrasjoner — filmer — besøk på hospitaler og rehabiliterings-senirer

Sight-seeungtur, Rådhusbesøk, lunsj, festmiddag.

De to hovedtemaer for N.S.L.s kurs er:

I. Innføring i hygiene og sykegymnastikken i det forebyggende arbeid.
Generell hygiene:
Lege Per Waage
Hygiene for mor og barn
Sykegymnast og jordmor Aase Randem
Svangerskapsgymnastikk demonstrert av svangre
Sykegymnast Siss Ryen
Hygiene og gymn. for småbarn
Avdelingslege Henrik Hagelsteen
Hygiene og gymn. for skoleb
Lege Else Johanning
Demonstrasjon av holdnings-gymnastikk
Sykegymnast Ruth Meidell Sundal
Bedriftshygiene
Bedriftsgymnastikk
Professor Haakon Natvig
Hygiene og rehabilitering innen geriatrien
Overlege Viktor Ganstad

II. Attføring (rehabilitering)
Dagliglivets rehabilitering
Sykegymnast Robert McAdam
Amputasjoner
Lege Lauritz Kaasa
Paraplegi
Lege Anne Grieg
Multipel sclerose
Lege A. Chr. Gogstad
Hemiplegi
Lege Bjørn Rogan
Poliomyelitt
Lege Gudmund Harlem
Cerebral Parese (spesielt om talefeil)
Sykegymnast Hanne Mossige
Efterbehandling efter thorax-plastikk-operasjoner
Sykegymnast Marie Sunheim
Sykegymnastikk og idrett
Sykegymnast Alf Kveberg
Sykegymnast Sven Langerud

I forbindelse med foredragene blir det gitt demonstrasjoner og vist filmer. 2 dager er reservert for indre anliggender. Kursavgiften er kr. 70.–, kroner 10.– sendes inn ved tilmeldingen innen 1. juli til N.S.L.s sekretariat.

Rett til endringer forbeholdes.

United Cerebral Palsy Scholarship Fund

It is pleasing to submit the following report of disbursements from the $15,000 awarded to the Association for scholarships to students completing the final year of their physical therapy educational program:

No. of applicants considered:	56
No. of awards granted	37
No. of different schools grantees are attending	16
Highest single award (3)	$700.00
Lowest single award	104.00
Average award	356.50

We are grateful to the United Cerebral Palsy Fund for this tangible expression of their interest in providing additional personnel for rehabilitation services. In addition, we are pleased that another grant for scholarship purposes has been received for awards to students entering the final year of their physical therapy programs in the fall of 1955 and the winter of 1956.

The Physical Therapist

Trustee is the journal for Hospital Governing Boards published monthly by the American Hospital Association. The April 1955 issue of this journal contains an article on "The Physical Therapist" written by Charles U. Letourneau, M.D. That this article is written with unusually sympathetic discernment of the profession is not because Dr. Letourneau is a member of the Association's Advisory Council. It was this understanding that inspired his appointment and reappointment by the Board. The following sentence from the article will be enough to send every member looking for a copy of *Trustee* to call to the attention of his hospital colleagues: "Next to the practice of medicine itself, there is no profession in the health field where the element of professional judgment based on knowledge and experience is as manifest as in the profession of physical therapy."

Each of the institutional member hospitals of the American Hospital Association receives a copy of *Trustee* for its board president. Borrow your hospital's copy for your department's relations program.

Maine

Maine became the twenty-third state to enact legislation relating to the practice of physical therapy when the governor signed a bill passed by the legislature on April 25th. This law provides for licensing physical therapists who are graduates of schools approved by the appropriate subcommittee of the American Medical Association and denies the use of the title physical therapist or its abbreviations to those who are not licensed. The chapter reports that this legislation urged and supported by the state medical society was accomplished with a minimum cost.

New Student Members

Boston University

Joanne Bagwell
Emilio Cerci
Richard Colombo
Harriet Karp
Barbara Merrick
Patricia O'Donnell
Marilyn Ring

St. Louis University

Barbara Blaha
Evelyn Braun
Jo Ann Bryan
Rose Ann Haring
Sister W. M. Haslag
Julius W. Horvath
Marjorie Huelman
Carole Klaski
Phyllis Lovell
Carla Maglietta
Shirley J. Schutee
Rita Sullivan
Carol A. Vacca
Sister M. L. Weyenburg
Maureen Patricia Wulf

University of Buffalo

Gerald S. Coles

University of Connecticut

Cora P. Booth
Jean Gerrie
E. Ursula Miller

University of Minnesota

Ward M. Edwards
Shirley J. Rill
Donna R. Goehring
Helen E. Towle

University of Wisconsin

Barbara York

1955-56 Recruitment Plans and Materials

During the summer months we are formulating our recruitment plans and completing our recruitment materials for use during the 1955-56 school year: they will be distributed to members next month. With the stimulus of the new brochure, fact sheet, and other new career materials — more "how to" instructions to aid members in planning effective recruitment projects — plus a time table for activities — it is confidently anticipated that a vigorous and productive fall recruitment drive will be initiated in all chapters and districts early in September.

Aided by these easy-to-use materials every member can actively participate in our fall recruitment drive.

A special appeal for cooperation in our 1955-56 recruitment program is made to those members who are widely separated geographically from other members and whose areas contain few towns and few schools. An analysis of recruitment efforts in these sparsely settled areas during the past year proved that even the simplest recruitment technics are usually highly productive. Consequently, special guidance through correspondence will be furnished these members.

Every member is urged to work through his or her chapter and when necessary write the National Office for help in deciding upon and organizing productive local projects, or for special recruitment materials.

WORLD CONFEDERATION FOR PHYSICAL THERAPY *News*

Second Congress

WORLD CONFEDERATION FOR PHYSICAL THERAPY

Date — June 17-23, 1956

Place — Hotel Statler, New York City

Program

The program has been developed around the theme "Health, A Strong Force for World Understanding — The Role of the Physical Therapist"

Sunday, June 17

A.M. Arrangements will be made for special religious services.

P.M. Registration—all tickets, final program, and other pertinent material will be distributed.
Welcoming Reception.

Monday, June 18

10:00 A.M. Opening Ceremony of the Congress.

11:30 A.M. Opening of exhibits.

2:00 P.M. Presentations of the status and needs of physical therapy by representatives of governments.

Tuesday through Friday, June 19-22

The scientific program will include presentations on

Anterior Poliomyelitis—The role of the physical therapist in the evaluation studies of the polio vaccine field trials.

Cerebral Palsy—Similarities and differences in methods of treatment.

Prosthetics—Recent research, prescription, fitting and training.

Bracing and Adaptive Devices for neuromuscular disorders.

Evaluation Procedures—Physical achievement, manual and electrical muscle tests, joint measurements.

Underwater Exercise—Physical principles and therapeutic use.

Posture Symposium.

Ultrasonics.

Physiological Basis for Heat.

Home and Convalescent Care Programs—including the severely disabled.

Antenatal and Postnatal Exercise.

The Physical Therapist—His education and responsibilities; his relationships to his fellow-workers and the community.

Seminar on Education.

A detailed program will be available later.

Film Theatre

Films of special interest to the members of the Congress will be selected.

Exhibits

Technical—Presentation of therapeutic exercise, electrical and hydrotherapy equipment; wheel chairs; crutches; braces; adaptive equipment; prosthetic appliances; textbooks, etc.

Scientific—Presentation of research and clinical studies related to the scientific program.

Social Program

A social event for each evening is being planned. This will include the official banquet, a boat trip around New York, receptions by the Canadian Physiotherapy Association, the American Physical Therapy Association, and the International Society for the Welfare of Cripples. Additional entertainment is being planned for the social associate members.

Study Tours and Visits

Arrangements will be made for visits to departments in New York City and environs, as well as in other cities in which colleagues may be visiting, immediately prior to or the week after Congress.

Two planned tours may be arranged of 5-7 days' duration—one to Boston and one to Washington. Stops would be made at intermediate points for sightseeing and hospital visits. Details will be available later.

Membership Categories

Full Members—Physical therapists, occupational therapists, medical social workers, physicians, vocational counsellors, nurses, administrators of hospitals and rehabilitation centers, board and staff members of organizations interested in the handicapped.

Student Members—Students in the approved schools of physical therapy in the member or-

ganizations of the World Confederation for Physical Therapy.

Social Associates—Members of the family or friends of a full member. This will permit attendance at general meetings, visiting exhibits, and participating in a social program prepared for them during time of scientific sessions.

Membership Fees

Until February 1, 1956	
Full Members	$10.00
Student Members	5.00
Social Associates	8.00
After February 1, 1956	
Full Members	12.00
Student Members	6.00
Social Associates	10.00

Members who have enrolled but who are subsequently unable to attend may have their fees refunded less 20%, provided cancellations are received by May 1, 1956.

Hotel Reservations

Reservations will be made directly with the Statler Hotel.

Travel

Members should make travel arrangements through their own agent. Members from overseas desiring travel information to other parts of the United States may write to

Mrs. Sara Stevens
American Airlines, Inc.
99 Park Avenue
New York 16, New York
U.S.A.

who will suggest itineraries. The American Airlines is the Official Airlines of the Congress.

Banking

Arrangements will be made with the Chase Manhattan Bank, Pennsylvania Branch, to provide banking services to members. It is strongly advised, however, that members have most of their funds in Travelers Checks.

Member Organizations

Australia
The Federal Council of the Australian Physiotherapy Association

Canada
Canadian Physiotherapy Association

Denmark
Danske Fysioterapeuter

Finland
Suomen Laakintavoimistelijain Yhdistys

France
Comite National des Masseurs-Kinesitheraputes Francais

Great Britain
Chartered Society of Physiotherapy

Holland
Nederlands Genootschap voor Heilgymnastiek, Massage en Physiotechniek (To be confirmed 1956)

New Zealand
New Zealand Society of Physiotherapists, Inc.

Norway
Norske Sykegymnasters Landsforbund

South Africa
South African Society of Physiotherapists

Sweden
Kvinnliga Legitimerade Sjukgymnasters Riksforbund

United States
American Physical Therapy Association

West Germany
Zentralverband der Krankengymnastischen Landesverbande in westerdeutschen Bundesgebiet

Executive Committee

Miss Mildred Elson, *President*
United States

Miss G. V. M. Griffin, *First Vice-President*
Great Britain

Mrs. Sigrid Coleridge, *Second Vice-President*
Sweden

Mrs. Rudie Agersnap, *Third Vice-President*
Denmark

Miss Moira Brown
New Zealand

Mr. J. Dupuis Deltor
France

Miss Marjorie Spence
Canada

Miss M. D. Verco
Australia

Endorsing Organizations

American Academy of Orthopaedic Surgeons

American Hospital Association

Catholic Hospital Association of the United States and Canada

Federation of Jewish Philanthropies of New York

International Poliomyelitis Congress

International Society for the Welfare of Cripples

National Foundation for Infantile Paralysis

Inquiries

All inquiries regarding the Congress should be directed to:

World Confederation for Physical Therapy
1790 Broadway
New York 19, New York
U.S.A.

Cable Address: APTHERAPY
Telephone: COlumbus 5-0430

Second Congress

World Confederation for Physical Therapy

The New York Chapter of the American Physical Therapy Association wishes to extend to all members of the World Confederation for Physical Therapy, a cordial invitation to be its guests at the Second World Congress to be held June 17 to 23, 1956 at the Hotel Statler in New York City. We consider it a distinct honor to have been chosen to act in this capacity, and are looking forward with great eagerness to the pleasure of being your hosts.

Each New York Chapter member considers himself your individual host and helpmeet as long as you find it possible to stay in New York. Many local members anticipate having an overseas visitor as a house guest. Arrangements are being made for traveling companions and friends who are not World Confederation members to visit points of interest while meetings are in session. A committee of interpreters will be provided to help overcome any language difficulties.

We know that all of you will wish to take advantage of the many things New York has to offer, particularly the theater, radio, television shows, and historical points of interest. Since the United Nations is one attraction we feel sure you will all want to see, conducted tours are being planned for a late afternoon, followed by a reception in the Delegates' Dining Room.

In order that our guests may get a bird's-eye view, or perhaps a fish's-eye view would be a better term, of fabulous New York, a 35-mile boat trip around Manhattan Island is planned for the evening of June 18. Banked against the evening sky, the sky-scrapers with their myriads of lights form a never-ending source of wonder to many of us. What better way to spend a warm summer evening!

During the two or three days prior to conference, and for the week following, clinical installations in and near the city will be open to receive visitors. These will include as many types of institutes or departments as possible, covering rehabilitation, polio, cerebral palsy, amputees, general set-ups, etc. More specific information will be made available later.

Miss Cora Alice Taylor is chairman of all local New York Chapter activities. Any inquiries should be directed to her through the National Office of the American Physical Therapy Association, Room 310.

The 1956 House of Delegates meeting of the American Physical Therapy Association will be held on the Saturday before the Congress meetings; sectional meetings will be held on the following Saturday.

After religious services and registration on Sunday, June 17, a "punch bowl" will start things off, giving everyone a chance to make new friends and see old ones again. The official banquet—just fun and good food—will be held on Wednesday night. There will also be ample time and place for friends to have get-togethers.

But above all is the comprehensive educational program which the Planning Committee has set up. It is so impressive that I find myself wishing that June of '56 weren't so far away! With the contributions of the many speakers from assorted countries, we shall truly have a World Congress.

This program is designed to explore the concept of total patient care. Emphasis is placed on preparing the patient for maximum independence from date of onset of illness or accident, through the utilization of the physical therapist by the physician in the hospital, the rehabilitation center and in the home.

The topics include:

Anterior poliomyelitis

The contribution of the physical therapist including his role in the evaluation studies of the Polio Vaccine Field Trials and the rehabilitation of the severely involved polio patient.

Cerebral palsy

Similarities and differences in the methods of treatment of the cerebral palsied with attention to etiology.

Prosthetics

Recent research and development of both upper and lower extremity prostheses. The role of the physical therapist in planning and using prosthetic appliances.

Bracing and adaptive equipment

Mechanical principles and use for muscular paralysis.

Evaluation procedures

Physical achievement tests; muscle tests, manual and electrical; joint measurements; postural patterns.

Ultrasonics

Physiological basis for heat

Underwater exercises

A seminar on education of the physical therapist in member countries of the World Confederation will be held.

Study visits with demonstrations are being planned at centers such as the Institute for Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center, the Institute for the Crippled and Disabled, Kessler Institute, and special centers for the treatment of the respirator patient and the cerebral palsied.

Movies of particular interest to physical therapists and which support the scientific program will be shown in a film theater.

Because of the wide scope of physical therapy and the special interests of many, there will be at least four half-days in which two or more offerings will run concurrently.

Technical exhibits will include a presentation of all types of equipment utilized in the rehabilitation of the patient. Scientific exhibits will be related to current practices, research, and to the scientific program.

The theme of the Congress is: *Health—A Strong Force for World Understanding.* The truth of this theme has been shown many times in recent years. People who have something to offer in the way of betterment of health conditions have often proved to be more effective ambassadors in other countries than official representatives. We feel that not only will this meeting result in a great impetus to the progress of physical therapy, and be of professional aid to all of us, but that the lasting friendships made here will truly be a basis for better understanding among nations.

We are looking forward to seeing all of you in New York in 1956.

ANTHONY J. DEROSA
President, New York Chapter
American Physical Therapy
Association

Post Congress Course
June 25-30, 1956

The University of Connecticut — School of Physical Therapy is offering a five-day course on recent advances in upper extremity prosthetics including basic kinesiology, amputation levels, prosthesis harnessing, and training. Cost $30.00 for tuition, room, and meals. Accommodations will be available on campus.

The faculty will include Dr. Charles Bechtol and staff of the Physical Therapy School, University of Connecticut.

For further information and application write to Frances Tappan, Technical Director, School of Physical Therapy, University of Connecticut, Storrs, Connecticut, U.S.A.

Columbia University

Announcement has been received of the following postgraduate cerebral palsy courses offered to physicians, physical, occupational and speech therapists and nurses who are properly qualified and experienced in the field of rehabilitation.

Name of Course

Postgraduate Cerebral Palsy Courses

Sponsor of Course

Columbia University

Dates of Course

Physicians' Course—October 10-28, 1955; April 16-May 4, 1956.

Physical Therapists', Occupational Therapists', and Nurses' Course—October 10-December 9, 1955; April 16-June 15, 1956.

Course Content

Lectures, demonstrations, and seminars covering medical management, basic science review and psycho-social aspects, as well as clinical experience in all types of facilities.

Tuition

Physicians' Course—$100.

Physical Therapists', Occupational Therapists', Speech Therapists' and Nurses' Course—$210. (8 points credit)

A list of scholarship sources will be sent on request.

For further information address:

Office of the Dean, Columbia University
College of Physicians and Surgeons
630 West 168 St., New York 32, N. Y.

Annual Meeting of American Academy for Cerebral Palsy

The American Academy for Cerebral Palsy will hold its annual meeting in Memphis, Tennessee, October 10, 11, and 12, 1955, at the Claridge Hotel. The scientific sessions are open to the medical and allied professions interested in cerebral palsy. There will be both a formal program and instructional courses.

Invitations may be obtained by writing to Robert A. Knight, M.D., Secretary-Treasurer, 869 Madison Avenue, Memphis 3, Tennessee. Hotel reservations should be made through Mr. Scott Steward, Manager of the Claridge Hotel.

Student Section

Physical Therapy Goes to Korea

Lorna C. Anderson

Thelma Maw, graduate of Childrens Hospital Society School of Physical Therapy in 1944, is now in Los Angeles and among other activities is selecting information and equipment for the organization of a physical therapy school in Korea. While on furlough she is giving many lectures and informal talks which will acquaint her audiences with the needs of the Korean people and also with some of the accomplishments that have been achieved by the missionaries.

Miss Maw has spent the memorable, past five-year assignment serving as a physical therapist in Korea under the sponsorship of the Board of Missions of the Methodist Church. Her service in Korea was punctuated with periods of enforced evacuation to Japan during which time she continued her study of the Korean language. In 1951 she returned to Korea working at the Southern Presbyterian Hospital at Chunju until such time as she could return to the Severance Union Medical College and Hospital in Seoul, where she began her work in 1949.

She recently addressed the physical therapy students at Childrens Hospital and showed many interesting pictures of her patients, mostly refugee children, her work in prostheses, and some examples of the destruction which took place at Seoul before her return to that city in 1952. An example of the latter was a picture of the jagged walls and shell torn beds which had once been part of the Severance Union Hospital. She described the "beer can civilization" where the fronts and roofs of many homes were literally reconstructed of beer cans.

We compared her experiences with those of a physical therapist over here and found it hard to imagine having to trot two blocks to the nearest water supply, let alone carrying patients to surgery from the lower floor of one building out into the bitter Korean winter then into another building and finally up a flight or two of stairs. We can realize the horror stricken feeling she had when she began to work with the many children who had had burns inflicted upon them by some of the local "doctors" who still believe that evil spirits cause sickness. Another very distressing sight was that of a severely burned child whose inflamed surfaces, back of leg and back of thigh, had been allowed to remain in contact and had consequently healed and grown together. Instead of separating the two surfaces surgically, the leg was amputated. Miss Maw devoted considerable time positioning patients in order to prevent these unfortunate complications.

In another phase of physical therapy Miss Maw has done a remarkable job, bringing happiness and activity into the lives of many Korean children who lost limbs during the war. She helped set up an amputee clinic where prostheses are made and fitted. Many people flock to the door of this clinic with needs for prostheses which require the use of all the ingenuity of the workers. The main limitation is lack of funds because materials and labor cost money and the Koreans are poor. It costs about $10.00 to make an artificial leg for a child.

Miss Maw has met with a variety of patients, some of whom require special equipment which is not available in Korea unless made by a Korean carpenter. She has met with difficulty in describing what she desires to have made because even some of the simpler types of equipment are entirely new and revolutionary according to Korean standards. Consequently her equipment was limited to a homemade whirlpool, vibrabath, and walker. She has had standing tables made which have been sent with the child when he was able to go home. A particular instance will illustrate the apprehension of Miss Maw toward having child and equipment go out of her care. She had a standing table made for a spastic child who was thrilled with the new diversions it made possible. After soundly instructing parents not to leave the child in the table longer than five to ten minutes, she sent the table home with them. They left the child in the table an hour and the results were most disheartening. Local customs sometimes cause her patients to try to do without pieces of equipment which they need because they don't want their neighbors to think they have anything physically wrong with them. It is often hard for them to grasp the concepts of physical therapy and they make all sorts of blunders due to lack of understanding. Once they

School of Physical Therapy, Childrens Hospital Society, Class of '55.

are converted to its principles, however, they are very cooperative and everlastingly grateful.

There is much work in physical therapy to be done for the Koreans. Miss Maw hopes to help the Koreans help themselves by organizing a physical therapy school when she returns to Korea in the fall of 1955. She hopes to take back with her a bed with frame and pulleys to use as a pattern for others to be made in Korea. She needs many pieces of equipment and many books which can be used in the school. Her service is outstanding in quality and in kindness. It is not often one meets a person so sincerely willing to lend assistance without the hope of material reward. We are proud of Thelma Maw and hope that we will be able to help her further her good works in behalf of the devastated people of Korea.

Our school is endeavoring to gather some books pertaining to physical therapy and related fields, so that Miss Maw will have more material aid when she returns to Korea. If you wish to contribute books or anything else which will help further the development of physical therapy in Korea, please mail them to:

Miss Frances M. Laterza
123 East Central Avenue
San Gabriel, California

Second Annual Square Dance

Columbia University's Physical Therapy Department presented its second Annual Square Dance, which was held at the Institute for the Crippled and Disabled on Saturday, April 30th.

Mr. Ted Krandon of New York, a most able square dance caller, literally kept the guests on their toes all night with a variety of games, mixers, folk and square dances.

Such mixers as the Patty Cake Polka afforded Columbia students a chance to become better acquainted with some of the future physical therapists from New York University as well as other guests who had attended the dance.

Surprisingly enough, the most popular number of the evening was the Miserlou, a Greek dance, which is done in a circular pattern and consists of intricate steps done to a typically infectious oriental rhythm.

The success of this square dance was largely due to the efforts of Duncan Kennedy, class president, and Natalie Seidner, social chairman. Both deserve a word of praise for the time and energy which they contributed.

MADELINE ZADIGIAN
Columbia University

Career Day For Physical Therapy

Greater New York District of the American Physical Therapy Association

Columbia University and New York University Physical Therapy Departments joined forces with the Greater New York District of the American Physical Therapy Association to hold a career day at the College of Physicians and Surgeons on April 30. This joint program was for the enlightenment of counsellors and prospective students from high schools and colleges as to exactly what physical therapy entails.

The program started at ten o'clock with Miss Gladys Jameson, Associate Director of Training for Physical Therapists at Columbia, making the welcoming address. She introduced the theme for the entire day, "Physical Therapy a Service and a Career."

The program began immediately with the showing of the film entitled "Within Your Hands." This film dealt with the requirements looked for in a person entering the field, the training methods for students, and the areas open to the student once he or she has graduated. The physical therapy students of Columbia presented a short skit with Duncan Kennedy, President of the class, setting the scenes. The skit presented the problems of the high school and college students, in making up their minds on how and when to go into their chosen field, physical therapy. Natalie Seidner and Frank Gentile were the "confused" students with Beulah Tall the "enlightened" one throughout her high school and college days. Dr. John Alexander Downey, resident in Physical Medicine at Columbia-Presbyterian Medical Center, gave a short talk on the "Role of the Physical Therapist in the Medical Team." It was a most stimulating presentation which further oriented our guests to physical therapy.

Miss Elizabeth Addoms, Curriculum Director in Physical Therapy at New York University and Miss Mary E. Callahan, Director of Training for Physical Therapists, Columbia, opened the program to the guests for questions.

Tours through Vanderbilt Clinic Physical Therapy and Neurological Physical Therapy Departments were then conducted under the able guidance of the students of New York University

and of Columbia. Barbara Greenstein and Suzanne Phillips, graduate therapists, directed the student hosts and hostesses, who were: Nick LaRousso, Lou Tinghino, Arnold Allenius, Tali Alborz, and Deborah Frank, from New York University; and Judy Kelley, Florence Guest, Mitzi Rambusch, Debbie Sharek, Marge Greenfield, Alice Bond, Judy Kaplan, Larry Raymond, Duncan Kennedy, Beulah Tall, Alma Johnson, Natalie Seidner, Joan Heiniger, Karen Stotz, Frank Gentile, Jane Ruslander, Ella Shapiro, Betty Sue Lockman, Kathy Van Wormer, and Neil Spielholtz, all from Columbia.

All the machines and other equipment were explained to the guests so that they could get a picture of what goes on in the clinics. After the tours refreshments were served in the faculty lounge and the visitors had a chance to talk to the students and APTA members and were able to clear up any unanswered questions.

To conclude the program the film, "Three To Make Ready," depicting a rehabilitation team in action, was shown.

We hope that our visitors obtained a clearer picture of the job of a physical therapist and that some will join us in our field.

VIRGINIA O'BRIEN
DOROTHY WEEKS
Columbia University

News From Colorado

The Physical Therapy School at the University of Colorado Medical Center reports a busy past six-months' period. There are eleven students in the class, ten girls and one boy. Though most of our students are Coloradoans, we also have representatives from Illinois, Minnesota, Montana, and New York. The physical therapy school was organized in 1947 and the first class of six graduated in December 1948. There have been seven classes to graduate from the school, the largest class being fourteen. The school is making arrangements now to expand as some twenty students are expected from the university campus at Boulder alone next fall.

During a large part of the fall quarter one found our class in the anatomy laboratory, learning firsthand the human body by dissection of cadavers. In addition to our many courses in physical medicine we furthered our medical background by attending an autopsy, many survey lectures on disease, and observing operations, and clinics. We began working in the physical therapy clinic in the hospital in December and we are enjoying this valuable part of our training.

Three of the students attended a course given by the Red Cross last fall on "Teaching Disabled and Handicapped to Swim" and are helping in the swimming program the Red Cross has organized in Denver.

The class has attended several of the meetings of the Colorado APTA Chapter and plans to attend more.

In February we had a bandaging and sterile technic contest which is to become an annual event. The class was divided into two teams and each had a list of injuries to take care of. The score was very close but one team did win and the losers treated the winners to ice cream. The contest was judged by several doctors in our department.

Not all of our time has been devoted to studies and school, for we have had some parties too. At Halloween our class had a costume party and in December a Christmas party. These parties proved to be great fun for both faculty and students.

MARY CALVERT
University of Colorado

Cerebral Palsy Monograph

The Institute of Physical Medicine and Rehabilitation of New York University-Bellevue Medical Center announces the publication of Rehabilitation Monograph IX, "Cerebral Palsy, Methods of Evaluation and Treatment," by George G. Deaver, M.D.

The purpose of this monograph is to present the recent advances in the etiology, pathology, diagnosis, and types of cerebral palsy, with Dr. Deaver's interpretations of these findings, and suggested methods of evaluation and treatment.

Methods of classification and evaluation of factors to determine motor disability, intelligence, hearing, vision, and speech in the infant and young child with cerebral palsy are outlined.

Dr. Deaver is medical director of the Children's Division of the Institute, professor of clinical rehabilitation at NYU College of Medicine, medical director of the physical therapy department at Lenox Hill Hospital, and a member of the American Academy of Cerebral Palsy.

The manual, consisting of 57 pages and 5 illustrations, was made possible by the Association for the Aid of Crippled Children. Copies are available at the Institute of Physical Medicine and Rehabilitation, 400 East 34th St., New York 16, N. Y. The cost of the manual is $1.

Index to Current Literature

The Future of Physical Medicine. Lord Horder and B. Kiernander, Brit. J. Phys. Med., 18:47-50, March 1955

The Delay and Blockage of Sensory Impulses in the Dorsal Root Ganglion. F. T. Dun, J. Physiol., 127: 252-264, February 1955

Proprioceptive Facilitation Elicited Through the Upper Extremities. A. Jean Ayres, Am. J. Occup. Therapy, 9:57-58, March-April 1955

Action Potential Parameters in Different Human Muscles. F. Buchtal and P. Rosenfalck, Acta Psychiat. & Neurol., 30:125-131, Fasc. 1-2, 1955

Autonomic Regulation in Skin Resistance Pattern. Frank S. Zach, Brit. J. Phys. Med., 18:50-58, March 1955

Radioisotope Studies in Neuromuscular Disease. 2. Studies in Muscular Dystrophy and Myotonia Dystrophica with Sodium^{22} *and Potassium.*^{42} W. H. Blahd, F. K. Bauer, R. L. Libby and A. S. Rose, Neurology, 5:201-207, March 1955

Potassium Deficiency in the Rabbit as a Cause of Muscular Dystrophy E. L. Hove and J. F. Herndon, J. Nutrition, 55:363-373, March 1955

Usecholine in Myasthenia Gravis. Herbert Schwarz, Canad. M.A.J., 72:346-351, March 1, 1955

A Case of Myasthenia Gravis. P. J. Simons, St. Thomas's Hosp. Gazette, 53:19-29, February 1955

Kernicterus. Hypoxemia, Significant Pathogenic Factor. L. S. Meriweather, H. Hager and W. Scholz, Arch. Neurol. & Psychiat., 73:293-301, March 1955

Current Concepts in the Management of Arteriosclerosis. W. Dock, D. Adlersberg, H. A. Eder, F. E. Kendall and C. F. Wilkinson, Bull. New York Acad. Med., 3:198-219, March 1955

Control of Urinary Incontinence in the Male. B. A. Hayes, South. M. J., 48:234-238, March 1955

Present Status of the Problem of Vaccination Against Poliomyelitis. Jonas E. Salk, Am. J. Pub. Health, 45:285-297, March 1955

Should the Paraplegic Be Braced? O. Machek and H. A. Collins, Missouri Med., 52:190-192, March 1955

Critical Analysis of Divergent Views of Movement at the Shoulder Joint. Ellen N. Duvall, Arch. Phys. Med., 36:149-153, March 1955

Unequal Leg Length. R. S. Siffert and M. A. Losty, Am. J. Nursing, 55:294-296, March 1955

Fractures of the Femoral Shaft. A Review of 242 Patients. G. R. Anderson, M. J. Australia, 1:132-137, January 29, 1955

Prognosis for Fractured Hips in Aging People. R. B. Hunter and S. Woolley, Northwest Med., 54:265-266, March 1955

The Influence of Cortisone on the Structure and Growth of Bone. H. A. Sissons and G. J. Hadfield, J. Anat., 89:69-77, January 1955

Scoliosis; Operative Correction of Fixed Curves. F. G. Allan, J. Bone & Joint Surg., 37-B:92-96, February 1955

Wedge Resection for Scoliosis. Robert Roaf, J. Bone & Joint Surg., 37-B:97-101, February 1955

Spastic Valgus of the Foot. R. Merryweather, Proc. Roy. Soc. Med., 48:103-106, February 1955

Biophysical Principles in Selection of Hand Splints. O. F. von Werssowitz, Am. J. Occup. Therapy, 9:59-62, March-April 1955

Changes in Hydration of Muscle and Tendon Following the Application of Ultrasonic Energy. J. W. Gersten, Arch. Phys. Med., 36:140-148, March 1955

A Study of the Relative Value of Long Wave Diathermy and Microwave Diathermy for Heating the Pelvis. F. J. Kottke, G. Gullickson, H. Erickson and M. Healy, Arch. Phys. Med., 36:137-139, March 1955

Physiological Effects of Generalized Heat Treatments. W. S. McClellan and W. E. Lawrence, Brit. J. Phys. Med., 18:59-61, March 1955

The Origin of Human Movement. Temple Fay, Am. J. Psychiat., 3:644-652, March 1955

On Pathological Retardation of Movement. G. H. Monrad-Krohn, Acta Psychiat. et Neurol., 30:289-291, Fasc. 1-2, 1955

Gold-Hormonal Therapy in Rheumatoid Arthritis. Paul J. Bilka and Max H. Weil, Ann. Int. Med., 42:638, March 1955

Rheumatoid Arthritis. Diagnosis in Peripheral Joint Affliction. Stacy R. Mettier, California Med., 82:181-185, March 1955

Discussion on Psychogenic Rheumatism. D. O'Neill, P. E. Sundt, E. Fletcher, J. H. Jacobs, and W. Tegner, Proc. Roy. Soc. Med., 48:65-70, February 1955

The Phantom Limb Experience in Relation to the Problem of Anosognosia. Villars Lunn, Acta Psychiat. et Neurol., 30:281-288, Fasc. 1-2, 1955

General Medical Aspects in the Care of Back Cases. Henry J. Noerling, New York State J. Med., 55:661-662, March 1, 1955

Have You a Backache? Chas. W. Goff, Connecticut M. J., 19:184-187, March 1955

Stress Factor in the Disc Syndrome. J. C. Scott, J. Bone & Joint Surg., 37-B:107-111, February 1955

Referred Pain in Headache. Herbert C. Archibald, California Med., 82:186-187, March 1955

Note on the Age and Sex Incidence of Poliomyelitis. Mila E. Rindge, J. Infect. Dis., 96:101-103, January-February 1955

Poliomyelitis in Pregnancy. W. J. McCord, A. J. Alcock and J. A. Hildes, Am. J. Obst. & Gynec, 69:265-276, February 1955

Tracheotomy in Poliomyelitis. J. A. Forbes, M. J. Australia, 1:66-68, January 15, 1955

Polio is a Community Problem. A. Magnussen and R. B. Scott, Nursing Outlook, 3:135-138, March 1955

Modern Concepts of Systemic Lupus Erythematosus. A Review of 126 Cases. John R. Haserick, J. Chronic Dis., 1:317-334, March 1955

Epidemiologic Investigations of Amyotrophic Lateral Sclerosis. Part I. L. T. Kurland and D. W. Mulder, Neurology, 5:182-196, March 1955

Factors Concerned in the Regulation of Sweat Production in Man. D. M. Kerslake, J. Physiol., 172:280-296, February 1955

The Effect of a Head-Up Tilted Position and Ambulation on Renal Hemodynamics and Water and Electrolyte Excretion in Patients with Hypertension, With and Without Renal Damage. J. H. Moyer, L. C. Mills, R. V. Ford and C. Spurr, L. Lab. & Clin. Med., 45:179-190, February 1955

Physical Therapy Programs—1955

APPROVED BY THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS OF THE AMERICAN MEDICAL ASSOCIATION

DEGREE and CERTIFICATE PROGRAMS—Information on specific entrance requirements should be obtained from the schools listed below. Schools offering a degree will accept high school graduates for the four year program leading to a baccalaureate degree, *as well as transfer students.* A certificate program is a concentrated course of study offered to those who have completed all or most of their undergraduate work before declaring a major in physical therapy. Graduates of either the degree or certificate programs are equally qualified.

	Degree Program	*Certificate Program*
California		
School of Physical Therapy Childrens Hospital Society (Univ. of California at Los Angeles) 4614 Sunset Boulevard Los Angeles 27	†	†
School of Physical Therapy College of Medical Evangelists White Memorial Hospital Boyle and Michigan Avenues Los Angeles 33	†	†
Department of Physical Therapy University of Southern California University Park Los Angeles 7	†	†
Curriculum in Physical Therapy School of Medicine University of California 3rd and Parnassus San Francisco 22	†	†
Division of Physical Therapy Stanford University Stanford	†	†
Colorado		
School of Physical Therapy School of Medicine University of Colorado 4200 East 9th Avenue Denver 7	†	†
Connecticut		
School of Physical Therapy University of Connecticut Box U 101 Storrs	†	
Illinois		
Course in Physical Therapy Northwestern University Medical School 303 East Chicago Avenue Chicago 11	†	†
Iowa		
Department of Physical Therapy State University of Iowa University Hospitals Iowa City		†
Kansas		
Section of Physical Therapy University of Kansas Medical Center 39th and Rainbow Boulevard Kansas City 3	†	
Louisiana		
School of Physical Therapy Charity Hospital of Louisiana 1532 Tulane Avenue New Orleans 12		†
Massachusetts		
Department of Physical Therapy Boston University Sargent College of Physical Education 6 Everett Street Cambridge 38	†	†
*Course in Physical Therapy Bouve-Boston School Tufts College Medford 55	†	
*Program in Physical Therapy Simmons College The Fenway Boston	†	†
Michigan		
Curriculum in Physical Therapy University of Michigan 1313 East Ann Street Ann Arbor	†	†

*Accepts women students only.

	Degree Program	Certificate Program
Minnesota		
School of Physical Therapy Mayo Clinic 102-110 Second Avenue, S.W. Rochester		†
Course in Physical Therapy 860 Mayo Memorial University of Minnesota Minneapolis 14	†	
Missouri		
Division of Health and Hospital Services St. Louis University 1325 South Grand Boulevard St. Louis 4	†	
Department of Physical Therapy School of Medicine Washington University 660 South Kingshighway St. Louis 10	†	
New York		
*School of Physical Therapy Albany Hospital (Russell Sage College) New Scotland Avenue Albany 8	†	†
Courses for Physical Therapists Columbia University College of Physicians and Surgeons 630 West 168th Street New York 32	†	†
Physical Therapy Division School of Education, New York University Washington Square East New York 3	†	†
Program in Physical Therapy University of Buffalo 2183 Main Street Buffalo 14	†	†
North Carolina		
Physical Therapy Course School of Medicine Duke University Durham		†
Ohio		
Course in Physical Therapy Frank E. Bunts Ed. Inst. Cleveland Clinic Hospital 2020 East 93rd Street Cleveland 6		†
Pennsylvania		
Division of Physical Therapy School of Auxiliary Medical Services University of Pennsylvania 1818 Lombard Street Philadelphia 46	†	†
Division of Physical Therapy The D. T. Watson School of Physiatrics (In affiliation with the University of Pittsburgh) Sunny Hill Leetsdale	†	†
Puerto Rico		
School of Physical and Occupational Therapy Commonwealth of Puerto Rico State Insurance Fund San Juan, P.R.		†
Texas		
Grady Vaughn School of Physical Therapy Baylor University University Hospital Dallas	†	†
Hermann School of Physical Therapy Hermann Hospital 1203 Ross Sterling Avenue Houston 5		†
Division of Physical Therapy University of Texas School of Medicine Galveston	†	†
Virginia		
School of Physical Therapy Baruch Center of Physical Medicine and Rehabilitation Medical College of Virginia 1203 East Broad Street Richmond 19	†	†
Wisconsin		
Course in Physical Therapy Medical School, University of Wisconsin Madison 6	†	†
U. S. Army Medical Service		
*Physical Therapy Course Medical Field Service School Brooke Army Medical Center, Fort Sam Houston, Texas and Brooke, Letterman and Walter Reed Army Hospitals Write to: The Surgeon General Department of the Army Washington 25, D. C. Att: Personnel Division		†

*Accepts women students only.

Please direct all inquiries regarding tuition, entrance requirements and other specific information to the school and *not* to the American Physical Therapy Association.

Abstracts

An Analysis of the Sympathetic Trunk, Communicating Rami, Sympathetic Roots and Visceral Rami in the Lumbar Region in Man.

Richard H. Webber, ANN. SURG., 141:398-413, March 1955.

Gross and microscopic analyses were made of the sympathetic trunk, the communicating rami, the sympathetic roots and the visceral rami in the lumbar region in man. Thirty-six lumbar symoathetic nerve dissections were made in 29 bodies.

The sympathetic trunk in the lumbar region is variable relative to the number and position of ganglia. Three or four ganglionic enlargements are present in about 70 per cent of the trunks observed. The ganglion located at the 5th lumbar vertebral level or the one sending rami to the 5th lumbar spinal nerve is most constant. Preganglionic nerve fibers probably enter ganglia at the 4th and 5th lumbar vertebral levels by pathways that are independent of the sympathetic trunk. Removal of these ganglia is necessary to obtain complete sympathetic denervation.

The ratio of preganglionic nerve fibers to ganglion cells in a ganglion located in the sympathetic trunk at the 3rd lumbar vertebral level, as determined by fiber and ganglion cell counts, was 1 to 73. The ratio of preganglionic nerve fibers to ganglion cells in two accessory sympathetic ganglia associated with a visceral ramus, was approximately 1 to 22.

Caudally directed, oblique rami extending from the spinal nerves to the sympathetic trunk usually contain predominately myelinated fibers. Transverse rami may also convey fibers of the same kinds. The 1st and 2nd lumbar spinal nerves are connected with the sympathetic trunk by more communicating rami and/or sympathetic roots than are the other lumbar spinal nerves. Terminal branches of communicating rami in some instances extend parallel to the sympathetic trunk for some distance before they join it. They cannot be distinguished in isolated sections from small bundles of fibers that deviate from the sympathetic trunk and extend for variable distances before re-uniting with it. In contrast to communicating rami, the sympathetic roots, as determined by microscopic studies, emerge from the sympathetic trunk in a more abrupt pattern. Most of the myelinated fibers in communicating rami and sympathetic roots fall within the range of 1½ to 2 microns in diameter.

Visceral rami contain many myelinated nerve fibers. Accessory sympathetic ganglia associated with the visceral rami are numerous. The sizes of the preganglionic nerve fibers to these ganglia vary in diameter from 1½ to 2 microns. Another group of nerve fibers which are about 3 microns in diameter may also be preganglionic.

No cross communications between the right and left sympathetic trunks above the sacral region were observed. Data relative to the existence of cross communications between the sympathetic trunks in the lumbar region must be considered as inconclusive.

The Behaviour of the Abdominal Muscles and the Intra-Abdominal Pressure During Quiet Breathing and Increased Pulmonary Ventilation.

E. J. M. Campbell and J. H. Green, J. PHYSIOL., 172:423-426, February 1955.

The intragastric pressure, respiration, and activity of the abdominal muscles were examined in healthy young men during quiet breathing and increased pulmonary ventilation in the erect position.

Continuous activity, shown on the electromyogram, was usually present in the muscles during quiet breathing. It frequently showed a respiratory variation with an increase in intensity during expiration and decrease in inspiration. In most of the subjects it was possible to abolish the activity by adjustment of the stance. As the pulmonary ventilation increased a definite respiratory rhythm became established. There was a cessation of activity during inspiration and increased activity during expiration. During quiet breathing and increased pulmonary ventilation up to 50-70 l/min. the respiratory variation in intragastric pressure was of the same type and magnitude in the erect as in the supine posture.

It is concluded that the abdominal muscles do not have a significant expiratory role in the erect posture except at very high levels of pulmonary ventilation.

Extrapyramidal Cerebral Palsy with Hearing Loss Following Erythroblastosis.

R. K. Byers, R. S. Paine and B. Crothers, PEDIATRICS, 15:248-253, March 1955.

Follow-up studies on 23 cases of kernicterus are reported in this paper. The familiar combination of extrapyramidal palsy, defects of hearing and disturbance of eye movements was found. The physical picture evolves with advancing age but changes according to a reasonably consistent pattern. The eventual degree of handicap, both physical and mental, is less than is commonly believed to be the case. The review of these cases leaves the authors with the feeling that the patients and their families find ways of utilizing assets which are ingenious and effective.

Delayed communication often leads to anxiety about mental development. Very frequently, defects of hearing are unrecognized or are left a matter of controversy, even when every method of testing is used. There is also much disagreement about the use of physical therapy and apparatus. This group feels that controlled activity patterns and rigid bracing may not be desirable.

Further observations on older children may lead to some agreement on many important matters which are still confused.

The Limp in Infancy and Childhood.

Ira H. Rapp, NORTH CAROLINA M.J., 16:57-61, February 1955.

The article discusses the diagnosis and treatment of eight common causes of hip lameness occurring in infancy and childhood.

Congenital dislocation of the hip should be recognized shortly after birth as evidenced by asymmetrical skin folds, shortening of the leg, unstable hip joint and x-ray changes. A milder form of dislocation is dysplasia of the hip with a shallow acetabulum. Both of these conditions may be treated with an abduction splint.

Congenital coxa vara in which there is a decreased angle between the femoral neck and shaft causes a painless limp. The patient has a limitation of abduction and internal rotation and a prominent greater

trochanter. In severe cases osteotomy is usually necessary to correct the deformity.

A child with pyogenic infection of the hip has a rapid onset of symtoms with local and general inflammation, severe muscle spasm, pain, and resistance to passive movement. Early treatment consisting of use of antibiotics, local drainage, and immobilization of leg in traction is important.

Tuberculosis of the hip may not be evident until age two when the child begins to limp. The diagnosis should be confirmed with tuberculin test and x-ray. Newer concepts of treatment avoid long periods of bed rest but use antibiotics and PAS.

The etiology of transient epiphysitis is obscure but believed to be related to trauma or infection. If determined, the foci of infection should be removed. During the acute stage attempt should be made to relieve the muscular spasm and avoid the further trauma of weight-bearing.

In Legg-Perthes' disease, weight-bearing must be prevented. If complete bed rest and leg traction is not feasible for the entire progression of this degenerative disease, nonweight bearing ambulation may be used after the acute stage.

Adolescent coxa vara or slipping upper femoral epiphysis may be recognized by intermittent limping, knee pain and a lateral x-ray view of the hip. If immobilization fails to prevent further slipping, surgery should be considered.

Muscle Recovery in Poliomyelitis.

W. J. W. Sharrard, J. BONE & JOINT SURG., 37-B:63-79, February 1955.

The results of a three-year study of recovery in 3,033 lower limb muscles and 1,905 upper limb muscles in 142 patients are presented.

The rate of recovery of partly-paralyzed muscles is the same in all muscles and muscle groups in the lower or upper limb. Clinical differences in the ability of individual muscles to recover depend upon the proportions of their number that remain permanently paralyzed. The rate of recovery is slowest in adults and most rapid in young children. The amount of further recovery to be expected in a muscle can be predicted from a knowledge of its grade at any time after one month from the onset of the paralysis. Fourteen-fifteenths of the total amount of recovery takes place by the beginning of the twelfth month; with rare exceptions individual muscle recovery is complete after twenty-four months. Ninety per cent of muscles that are still paralyzed completely after six months remain permanently paralyzed. The prognosis of a completely paralyzed muscle is related to the level of paralysis in muscles supplied by the same spinal segments.

Deterioration in power in a muscle is uncommon and, when it occurs, is associated with the presence of the strong opposing force of antagonist muscles or of gravity.

The application of these findings to the management of cases of paralytic acute anterior poliomyelitis is discussed.

Therapeutic Use of Cold.

William Bierman, J.A.M.A., 157: 1189-1192, April 2, 1955.

"The term cold refers to the abstraction of heat, to the substance by means of which such abstraction is affected, and to the sensation created by such abstractions." Cold may be supplied therapeutically in all forms of matter; solid such as ice or carbon dioxide snow; liquid such as water; and gaseous substances which abstract heat as they evaporate such as ethyl chloride, alcohol, and ether.

Physiological responses to cold are general vasoconstriction and lowering of the temperature of the blood in the general circulation. With continued cooling, the temperature of the limb falls, fine touch sensitivity is diminished, and the muscles become less efficient. Because of the effects of local cold applications in distant parts of the body, cold can be used for examination of circulation and hypertension. As yet the use of cold depends more on clinical judgment than on exact objective criteria of its effects on the tissue changes; however, it has been found to be beneficial in a variety of conditions such as acute traumatic injuries, allergic reactions, dermatological conditions and dentistry. The use of ethyl chloride spray has been found to be beneficial when combined with movement to reduce acute and chronic muscular spasm. Lowering the general body temperature results in declining blood pressure, reduced coronary circulation, weakening of the myocardium, and in severe cases, changes in the cardiovascular system. Hypothermia has been used for treatment of cancer with no favorable result and for psychiatric disorders with better results. It has been found beneficial in cardiac surgery as it permits relatively long interruption of circulation with full recovery. Local refrigeration for extremities requiring amputation has been found to reduce surgical shock, control infection, and eliminate postoperative pain and edema.

Present Value of Ultrasonic Diathermy.

Justus F. Lehmann, Donald J. Erickson, Gordon M. Martin and Frank H. Krusen, J.A.M.A. 157:996-998, March 19, 1955.

It is justifiable to consider ultrasonic therapy primarily as a form of diathermy. Under therapeutic conditions most biological reactions to ultrasound are due essentially to heating produced by absorption of ultrasonic energy. Nonthermal effects have been observed but their therapeutic significance is, as yet, poorly understood.

With ultrasonic diathermy certain anatomic structures such as bones, joints, nerves, and tendons are heated selectively. Although ultrasound is a very efficient method of heating the deep tissues, precautions have to be taken to avoid over heating since rise in temperature occurs quickly. The final value of ultrasound as a therapeutic agent can only be determined by clinical studies.

The authors did a statistical analysis comparing the effects of ultrasound with those obtained with another accepted form of diathermy. Seventy-eight patients who had periarthritis of the shoulder were treated with ultrasonic energy. The results obtained in this group were compared with those in another group of 72 patients who received treatment with microwave diathermy. Both groups received massage and identical exercise programs after the application of heat. The patients in each group were treated for the same number of days.

The statistical evaluation was based on the measurements of the range of motion before the first and after the last treatment. The results indicated that the gain in range of

motion was somewhat greater when ultrasound was used than when microwaves were used. The difference was statistically significant. The authors state that the statistical evaluation does not give any information on how much more efficient ultrasound is; therefore, it still is debatable whether ultrasonic therapy should be given in preference to other forms of diathermy. Clinical observations and the tabulated data suggest at least, that ultrasound can be used effectively by a physician skilled in its application.

It is stated that much more research must be done in order to refute or corroborate the claims published in the literature.

Diagnosis and Treatment of the Painful Shoulder.

Miland E. Knapp and Joseph P. Engel, J.A.M.A. 157:995-996, March 19, 1955.

Diagnosis of lesions causing pain or limitation in the shoulder is one of the difficult problems confronting the physiatrist. Every painful shoulder will be the result either of a pathological change in the shoulder region itself or of a more distant lesion causing referred pain in the shoulder.

The author reviews anatomical structure and motion of the shoulder girdle, and states that a goniometer reading of the scapulohumeral motion is made in abduction. Normal shoulder motion is not possible if the angle between the humerus and the scapula measures less than 90 degrees. If scapulohumeral motion is limited the patient invariably elevates the shoulder when attempting to abduct the arm.

Causes of shoulder pain may be classified according to the presence or absence of limitation of motion. Group I, pain without limitation of motion, may result from: (1) cervical hypertrophic arthritis, (2) protrusion of cervical disk, (3) tumor of the cervical cord, (4) abnormal posture, (5) metastatic tumors of the neck, (6) whiplash injury of the cervical spine, (7) cervical rib, (8) scalenus syndrome, and (9) visceral referred pain. This group will not respond to treatment directed toward the shoulder. Treatment should be directed toward the removal or relief of the causative factor. Limitation of motion may occur secondarily at the scapulohumeral joint.

Group II, limitation of shoulder motion, is usually found in the following conditions: 1. Calcified tendinitis. 2. Periarthritis. 3. Bicipital syndrome. 4. Reflex sympathetic dystrophy. 5. Partial degeneration of the short rotator cuff. 6. Immobilizing lesions of the upper extremity such as Colles' fracture, hemiplegia, or radical mastecomy. 7. Arthritis of the shoulder joint and of the acromio-clavicular joint. 8. Paralytic conditions, such as axillary nerve injury. 9. The severely involved shoulder in patients with poliomyelitis.

Physical therapy treatment includes hot packs, massage, and gradual mobilization of the scapulohumeral joint with active assistive motion and mild passive stretching. The scapula must be stabilized by the therapist during motions of the arm. Optimal return of shoulder function has been observed in those patients who receive intensive treatment until at least 80 degrees of scapulohumeral motion and 110 degrees of thoracohumeral motion is obtained before starting a home exercise program.

Peripheral Circulatory Disease in the Geriatric Patient.

H. O. McPheeters, GERIATRICS 10: 129-131, March 1955.

Peripheral circulatory disease in patients past 50 is receiving more attention than it has in the past. Much can be done to assure comfort or to save an extremity which is badly jeopardized by obliterative arterial disease.

Varicose veins are considered as the most active cause of recurrent ulcerations of the lower leg. The presence of the large amount of blood in extensive varicose veins throws an extra load on the heart and, in case of a failing circulation or decompensation, may hasten the fatal outcome. All cases of deep phlebitis of the lower extremity will at some later date develop varicose veins.

Years of experience have proved that circulation is improved when these veins are cared for. It may be done by high ligation above all the tributaries with as complete stripping of the varicosed system as possible. Any leg with varicose veins or ulcers should be firmly bandaged as long as it is sore, tender, or swollen.

When a stasis ulceration is present, a firm elastic support is necessary. Rapid and frequent walks are advised since the rapid contraction of the calf muscles result in a pumping effect that pushes the edema fluid out of the leg. Exercise increases arterial blood flow through the extremity to aid healing of the ulcer.

Obliterative arterial disease of the abdominal aorta and any or all of the arterial tree below is one of the most serious and common conditions affecting the patient over 60. Symtoms are coldness of the toes and feet and often numbness of the toes. The patient will notice aching and cramplike pains, called claudication pains, through the calves when walking rapidly.

In treatment, patients must understand that their cooperation is necessary. They should be instructed in cleanliness of toes and feet, to avoid infection, injury, and chilling of the feet. The patient should be given vasodilating drugs and be forbidden to smoke. In more advanced cases a lumbar sympathectomy should be done.

Proper early recognition and care and, if necessary, operative care in more advanced cases will assist these patients to live out their normal life span and avoid amputations or fatal outcomes so often seen.

Median Nerve Palsy Associated with Acute Infections of the Hand.

David Bailey and J. F. Bolton Carter, LANCET, 1: (No. 6863), 530-532, March 12, 1955.

Two cases are reported in which minor trauma to the thumb caused a pyogenic infection of the hand resulting in median nerve palsy. The first patient cut her thumb on a milk bottle. Shortly afterwards local elevation of temperature and edema of the fingers and hand occurred. The fingers were held in flexion with no active extension and passive extension causing pain. Thumb movements were normal. Later there was a sensory loss in the distribution of the median nerve. Immobilization, elevation, and antibiotics did not alleviate the condition. One month after the injury surgery was performed, consisting of exploration of the median nerve and freeing it by a division of the transverse carpal ligament. The patient received physi-

cal therapy pre- and postoperatively. Six months later the hand was functioning satisfactorily.

The second case presented a similar history. Thirty-six hours after the injury the transverse carpal ligament was divided. The median nerve was not as devitalized as in Case 1. The first surgical procedure did not alleviate the condition, therefore, seven days later a second decompression of the carpal tunnel was required. The patient received physical therapy postoperatively including paraffin baths. In six months the hand was normal.

It is believed that the interference of the median nerve resulted from compression by inflammatory exudate in the radial and ulnar bursae, causing ischemia of the nerve. It is suggested that in cases of acute infection of the hand complicated by signs of interference of function of the median nerve, division of the transverse carpal ligament be carried out. The division should be done early before the nerve has been irreversibly damaged, and should be complete to provide effective decompression.

Rehabilitation in Geriatric Practice.

Arthur S. Abramson, CANAD. M.A.J., 72:327-334, March 1, 1955.

Rehabilitation deals with disuse, disability, and handicap by means of prevention, correction, and training. It is a medical responsibility from the moment of illness to the point of maximum possible recovery of functional capacity. Its area of greatest effectiveness lies between the limitations of disability and those of available reserves. Its goals vary from return to employment to helping the custodial patient to be less of a burden upon his family.

Aging leads to gradual functional deterioration. Problems of aging are serious when disorders of the vascular system become superimposed on the natural process of senescence. Both too little and too much activity are deleterious to this type of patient. Considerable reserves may be available for training in the cardiac and in the hemiplegic. The amount and kind of activity depend on clinical judgment.

The rehabilitation potential is greater in the disabled young than in the disabled elderly patient. It is much poorer in the elderly brain-damaged person. The author discusses here the course of the elderly hemiplegic patient including spinal shock, prognosis of functional muscle return, speech disorders and emotional problems. The entire process of rehabilitation when begun soon after the onset of the disability, with a useful goal in mind and a hopeful environment, has a motivating influence.

It is in the broad consideration of the patients' physical, mental, social and vocational problems that rehabilitation makes a contribution to medical practice.

Clinical Significance of the Transitional Lumbosacral Vertebra Relationship to Back Pain, Disk Disease, and Sciatica.

Frank E. Stinchfield and William A. Sinton, J.A.M.A. 157:1107-1109, March 26, 1955.

Man's penalty for assuming an upright position is low back pain. It is evident that evolutionary processes are attempting to strengthen the unstable lumbosacral joint. In 1876, Rosenberg felt that sacralization of the fifth lumbar vertebra was anthropologically progressive, whereas lumbarization of the first sacral vertebra was regressive.

Over a 10-year period the authors studied 100 patients with transitional lumbosacral vertebrae analyzing them with respect to (1) low back pain, (2) sciatic radiation of pain, and (3) pathological changes in the disk. Each of the 100 patients studied received lumbosacral fusions. A complete roentgenographic study of all the lumbar vertebrae and the sacrum was made in these 100 cases.

The study indicated that typical sciatic pain can be produced on a mechanical basis from a transitional lumbosacral vertebra. In 90 per cent of the patients with unilateral sacralization of a vertebra, the sciatic radiation of pain was on the side opposite sacralization. Disk herniation between the transitional segment and the sacrum was almost unknown in this series. Most herniations were at the level above the anomalous vertebra. One of the diagnostic points of sciatica caused by transitional vertebra is that its onset is simultaneous with insidious back pain. Neurological changes may be present without demonstrable nerve root pressure. Because of these findings, it is felt that the strain low in the back is transmitted to the joint above the transitional vertebra. For this reason, when surgery is required, the fusion is extended from the sacrum to the vertebra above the transitional segment. A successful fusion has eliminated back pain as well as the signs and symptoms of sciatic radiation of pain.

The Effect of Change in Body Position on Lung Volume and Intrapulmonary Gas Mixing in Normal Subjects.

E. Blair and J. B. Hickam, J. CLINIC. INVEST., 34:383-389, March 1955.

In many normal people a sizable part of the lung is ventilated at a much slower rate than the remainder. It is established that changes in body position alter the size of the various subdivisions of the lung volume as well as causing changes in the size and ventilation rate of the slow spaces.

Using an open circuit helium method, measurements were made in 12 normal subjects on the effect of change in body position on the conventional subdivisions of the lung volume and on the size and ventilation rate of the most slowly ventilated portions of the lung. The subjects were studied in the standing, seated, supine, right and left lateral, and Trendelenburg positions.

The functional residual capacity became progressively smaller on passing from the standing to the seated position, from seated to recumbent, and from recumbent to Trendelenburg. These changes depended primarily upon changes in the expiratory reserve volume, since the residual capacity changed very little.

Most of the subjects demonstrated in the standing and seated positions a slowly ventilated lung space which could be measured by the present technic. On recumbency, all subjects but one demonstrated such a space. In general, the "slow space" became smaller and more slowly ventilated when the subjects lay down, and its ventilation rate was still further reduced in the Trendelenburg position. The volume of the slow space was approximately a fifth of the functional residual capacity in recumbent and head-down subjects. The minute turn-over rate of these slow spaces was, in general, less than 0.5.

The location of those portions of the lung which comprise the slow space is not known. The develop-

ment of these large slow spaces in normal subjects during recumbency emphasizes the desirability of frequent change in body position and occasional periods of hyperventilation in the case of unconscious patients or those who are confined to a respirator.

Spine Injuries.

G. J. Garceau, J.A.M.A., 157:1192-1194, April 2, 1955.

Injuries to the spine vary from the severe fracture dislocation of the vertebrae with paraplegia, to the simple sprain of the back. Accurate diagnosis is essential and to obtain this, the history may be of great importance. Injuries occurring in the flexed position frequently result in compression fractures. Fractures of the appendages are usually associated with some degree of spinal or nerve root injury. Physical, neurological, and x-ray examinations are desirable to determine the extent of injury.

Fracture dislocations usually cause some neurological deficits, and hyperextension of the spine must be avoided to prevent further injury to the spinal cord. Open reduction is desirable with spinal fusion. Postoperatively the patient should be kept in a plaster shell on a firm bed.

Fractures of the pedicles or laminas, without displacement, should be treated by simple immobilization in a plaster jacket for about three months, during which time the patient may be ambulatory. Signs of neurological deficit indicate that open operative procedures are necessary.

Following fracture of one or more transverse processes, a patient should be immobilized in a well fitted plaster corset for about eight weeks. If symptoms of back disorder persist after its removal, some other cause for backache must be investigated, particularly the intervertebral disks.

If recovery from a sprain of the lumbar spine does not occur within a few weeks, injury to the intervertebral disk may be suspected. Primary treatment should be conservative including bed rest, traction, rest in flexion, postural exercises, plaster casts, braces, and physical therapy. This treatment must be continued for a long period after the symptoms have subsided. If this fails, then surgery must be performed.

In paraplegic patients, complications of bladder and bowel control present a great challenge. Mobilization of the patient as early as possible is of importance. Great care must be taken to prevent decubitus ulcers. A high protein diet is advisable to maintain the general condition of the tissues. Frequent turning of the patient, use of a trapeze and back rest, will aid in mobilizing the patient and securing his interest in his progress to complete rehabilitation.

Recent Advances in the Management of Severe and Extensive Burns.

Bert J. Jeremiah, RHODE ISLAND M.J., 38:147-154, March 1955.

The numerous mechanical and chemical advances made in industry and at home have stimulated more adequate and intensive treatment for severe burns. The object of the treatment is the same as that of other trauma. The treatment of shock is the first consideration. The local wound is then protected from mechanical injury and pathogenic bacteria.

The method of treatment at the Pawtucket Memorial Hospital has consisted of gentle cleansing followed by compression dressing into which fenestrated catheters have been incorporated. Débridement has often been hastened by the use of Tryptar. This has always been used after the first dressing. ACTH and cortisone have been used but without any outstanding results as an epithelium stimulator. They do, however, help to minimize pain and produce a state of euphoria. The main objective in the treatment of burns is to minimize early contamination, prevent infection, promote drainage of the burned wound, immobilization of the burned part so as to prevent loss of serum, and secure rapid and early healing with a minimal loss of function.

The closed pressure dressing method is preferred in the treatment of burns particularly the circumferential burns and burns of the hands. The exposed method of treatment may be used in massive burns such as might occur in severe explosions or in atomic bomb disasters. This method has shown promise and in the future may prove desirable.

Other adjuncts in the treatment of burns are the recognized antibiotics, blood transfusions, plasma and high protein and carbohydrate diet with increase of vitamin intake. The most important complications of severe burns are enumerated and briefly discussed.

Muscular Exercise in Treatment of Bronchial Asthma

Karl Schutz, NEW YORK STATE J. MED., 55:635-643, March 1, 1955.

An exercise program consisting of education to physiologic respiration and graded muscular exercise, was used in the treatment of 23 patients with bronchial asthma.

Good results were obtained in 10 patients and improvement in 9 others. Improvement was evaluated by cessation or marked decrease in number and severity of asthmatic attacks, an increase in the excursion of the diaphragm, and an increase of the vital capacity. Fluoroscopic and roentgenographic record of diaphragmatic excursions is discussed.

In addition to the favorable influence of respiratory reeducation, the beneficial effect of the described exercise therapy in bronchial asthma can be attributed mainly to stimulation of the adrenal cortex to increased cortisone production. The classic studies of Selye dealing with the general adaptation syndrome and the work of Richter on relation of domestication to the size of the adrenal glands strongly support this opinion.

The favorable physiologic and psychosomatic reactions due to training contribute to the very good results of this constitutional therapy.

Visual and Motor Instability in Multiple Sclerosis.

Jens Edmund and Torben Fog, ARCH. NEUROL. & PSYCHIAT., 73: 316-323, March 1955.

In a group of 45 patients with multiple sclerosis subjected to a standardized heat stress, about 75 per cent showed aggravation of visual symptoms. The exacerbation occurred within 10 to 15 minutes after the start of the heating period. After the experiment stopped, most patients returned to status quo within 15 to 20 minutes. All the patients who responded by visual disturbances also reacted with neurological signs.

Heating of the nature described in this paper is a "stress" on the multiple sclerosis patient and, as is well known, the physiological response to stress is a complicated one. It is known that heating is the immediate cause of vascular dilatation in the skin and in the central nervous system. It has been shown further that the pathological changes in multiple sclerosis are of perivenous location. From the pathoanatomical point of view, multiple sclerosis is a kind of periphlebitis in which large plaques are formed by the confluence of numerous, small periphlebitic zones. It has been shown that in fresh zones the dilated vessels are surrounded by edema. The possibility of edema in the parenchyma of the central nervous system in these experiments must be ruled out, however, since the symptoms subsided in about 20 minutes. At the present time it would seem most reasonable to assume that an alteration takes place in the ion distribution in the membranes of the nervous system, of the eye, and possibly of the neuromuscular apparatus with a corresponding alteration in the membrane potentials.

The preliminary result of the present investigation is the finding that a certain proportion of patients with multiple sclerosis exhibit intermittent visual impairment which does not seem to be related to optic nerve function. This impairment is elicited particularly by physical exertion or heat. Patients with multiple sclerosis present an abnormally high incidence of myopia. Fluctuations in the visual acuity are far commoner in myopic than in emmetropic or hypermetropic subjects.

Constriction Pain in Muscle. Ischemic or Neural?

Michael Kelley, NEUROLOGY, 5:178-181, March 1955.

It is believed that the so-called "ischemic" pain after muscle contraction is due not to insufficient blood supply, but to pressure on nerves.

In a series of observations, normal subjects performed bouts of vigorous muscle contractions. In some of the experiments the circulation to the part was partially or completely obliterated while in others it was not occluded at all. In each of the situations, fatigue, muscle weakness, and pain occurred after the muscle contractions; after 20 to 35 bouts when the circulation was impaired; and after 40 bouts when the blood supply was normal. In another series of observations, a primary artery was digitally compressed firmly enough to abolish the pulse and cause ischemia. In three subjects in which the nerve supply to the part was also compressed, fewer contractions were performed with more pain than in three subjects in which only the artery was compressed. In a third series of studies in which nerves, but not arteries were compressed, fatigue and pain ensued early after a series of muscular contractions.

Therefore, it is demonstrated by this study that pain is not due to ischemia. If pain were related to the blood supply, its onset would be delayed by vasodilation and hastened by vasoconstriction. After exercising, fatigue develops in muscle, then pain. The threshold for the pain is reduced in a muscle whose nerve supply is partially blocked by pressure.

Surgery of Osteoarthritis.

John J. Loutzenheiser, J. A. M. A. 157: 491, February 5, 1955

Continued use of any mechanical apparatus produces signs of wear in time, and the skeletal joints are no exception. Several of the osteoarthritic changes noted in joints, particularly in weight-bearing ones, are due to such a process. Gradual degenerative changes occur in the life span, and this is accelerated by disease, injury, and poor body mechanics. Loss of muscle tone, with adaptive ligamentous changes, and consequent alteration of weight bearing are some of the factors contributing to the production of degenerative arthritis. Prevention by means of physical reconditioning and postural training needs emphasis.

Only when conservative measures fail to relieve disability is consideration of operative procedure necessary. Reconstructive operations leave some disability; their purpose is to lessen the existing disability.

Arthrodesing operations on the ankle, knee, hip and spine are time-honored, successful procedures for eliminating pain and reducing disability. Patelloplasty or patellar excision may be used successfully for the osteoarthritic knee. Arthroplasty, acetabuloplasty and bifurcation osteotomy are valuable procedures for disabling osteoarthritis of the hip. The prosthetic devices of Smith-Peterson, Judet, and many others have over popularized arthroplasty. In carefully selected patients this operation is of value.

Beginning a patient on a time-consuming, expensive, physically and psychically, exhausting course of treatment demands carefully considered opinion before open operative procedure is performed.

Osteoarthritis of the Hip. A Study of the Clinical Pathology.

G. C. Lloyd-Roberts, J. BONE & JOINT SURG., 37-B:8-47, February 1955.

The capsular changes in osteoarthritis of the hip and their pathogenesis are described, and it is concluded that symptoms are due mainly to this abnormality. The clinical significance and pathogenesis of subchondral sclerosis, cysts, osteophytes, secondary subluxation and new bone formation on the lower border of the femoral neck are discussed. These bony features which can be seen in the radiograph may, under certain circumstances, be correlated with the symptoms.

The influence of joint debris and capsular fibrosis upon the symptoms arising in other osteoarthritic joints is considered. The mechanism by which osteoarthritis develops in hip joints with an anatomical abnormality is discussed in relation to the normal functional anatomy of the hip. The evolution of osteoarthritis in dysplasia of the hip is considered with special reference to its diagnosis, prognosis and early treatment.

The supposition that osteoarthritis is commonly due to progressive ischemia in the femoral head has been investigated and is rejected. The cause of idiopathic osteoarthritis remains obscure but the evidence suggests that constitutional rather than local conditions in the joint account for many of these cases.

Our Abstractors for July

Members of the Association who, with the Assistant Editors, prepared the abstracts for this month are:

Jean Cuthbertson
Margot Trimble

Book Reviews . . . . .

Anatomy: Regional and Applied. *By R. J. Last, M.B., B.S., F.R.C.S., Professor of Applied Anatomy, Examiner in Anatomy and Superintendent of Dissections of the Royal College of Surgeons, and Examiner in Anatomy and Physiology to the London Foot Hospital. Cloth; price $10.00. Pp. 665; illus. 309, many in color. Little, Brown & Co., Boston, 1954.*

This review can begin only on a note of utmost pleasure and gratification that this text has made its appearance. Here, at last, is a completely usable and practical text of anatomy based on truly functional concepts and clinical applications. As Dr. Last points out in his preface, this volume is not intended to be encyclopedic but it actually accomplishes a much greater objective as a result of the approach and content visualized by the author.

Unlike so many texts in this subject which tend to description and minute detail, this book is outstanding because of one fact. The entire text, while giving accurate and detailed information, emphasizes the *understanding* of structure as related to function. Relationships of neuromuscular and osteological structures are clearly and meaningfully shown along with basic concepts of the interrelationship of the whole body.

Subject matter is divided, as the title indicates, into body regions including the upper and lower limb, thorax, abdomen, head and neck, and the central nervous system. There is also an introductory chapter including tissues, embryology, and an excellent section on the anatomy of the child. This last is particularly valuable to anyone dealing clinically with the young human body.

The author's style is interesting and makes for easy reading and understanding. It gives conclusive evidence of his abilities both as a teacher and a physician. Throughout the text there are frequent and clear references to the applications of varied anatomical concepts as they apply to patients and patient care, making this book exceedingly useful to students, teachers, and clinical personnel.

While all of the illustrations are excellent, particular mention should be made of the photographs of actual specimens. These are clear, well prepared, and descriptive of the accompanying text so as to further strengthen the reader's understanding of function. The drawings and diagrams, many done by the author, are instructive in themselves.

This book can be highly recommended as a text, a reference, and an indispensable addition to the library of anyone associated with the medical field.

The Neuroanatomical Basis of Clinical Neurology. *By Talmage L. Peele, M.D., Associate Professor of Anatomy in Charge of Neuroanatomy; Assistant Professor of Medicine, Duke University School of Medicine. Cloth; price $12.50. Pp. 564; illus. McGraw-Hill Book Co., New York, 1954.*

The author of this new text has set out to correlate and combine neuroanatomy with basic neurophysiology and clinical neurology. He has succeeded admirably in what is obviously a difficult task. The text is lengthy and detailed yet interesting and easily read.

Dr. Peele begins with an account of nerve cells and fibers, neuroglia, microglia, neurohistological methods, and development of the nervous system. Excellent photomicrographs, drawings, and diagrams adequately illustrate the various features of these chapters.

Chapter 4 on "Gross anatomy of the brain; its blood supply and meninges" exemplifies the author's ability to truly integrate neuroanatomy and clinical neurology. This is followed by chapters on the spinal cord, peripheral nerves, the autonomic system, the brain stem, and cranial nerves. The descriptions here, as throughout the entire text, are quite detailed.

These are followed by the vestibular system, a welcome chapter on the reticular system, the cerebellum, the thalamus and the hypothalamus. In all these discussions one finds the latest in anatomical, physiological, and clinical thought.

The cerebral cortex and fiber systems are considered as a whole, followed by complete accounts of the percentral cortex, motor pathways, extrapyramidal system, prefrontal region and sensory pathways, and the parietal cortex.

The final four chapters present the special senses, taste, vision, hearing and olfaction.

An up-to-date bibliography of some 870 entries adds to the usefulness of this outstanding text. An interesting listing of motion pictures relating to the nervous system follows the bibliography. A compiete index is also found.

Dr. Peele is anatomist, physiologist, and clinician by training and this book shows clearly this varied background. The text is much too detailed for many elementary classes, but it is so well organized that it can serve as a threefold reference book which will be useful to both beginner and expert. Well illustrated, well written, accurate and up to date spell out a fine book.

Look Better, Feel Better: The World-Renowned Mensendieck System of Functional Movements for a Youthful Body and Vibrant Health. *By Bess M. Mensendieck, M.D. Foreword by Paul B. Magnuson, M.D., Chairman, President's Committee on Health Needs of the Nation. Cloth; price $3.50. Pp. 276; illus. Harper & Brothers, New York, 1954.*

This book, the first nontechnical presentation of the Mensendieck System of functional movement, is written for the lay reader. The first of its two parts is devoted to a discussion of the effects that habitual bodily posture and movements have on the muscle tone, joint flexibility, and natural symmetry of the human body. By means of a series of questions the reader is invited to take inventory of his own body and to determine for himself what posture and figure faults need correcting. This is followed by an elementary explanation of how the major muscle groups enter into bodily movements and the importance of making correct body mechanics an integral part of daily activities. This portion of the book is interestingly written, and informal case histories are used anecdotally to illustrate the writer's main points.

Part II takes up the 43 "movement schemes" which make up the system of exercise. These are in no way strenuous but rather stress good balance, muscle awareness, and conscious muscle control. No equipment is needed and the movements can be carried out within a small space. All movements are to be carried out slowly and with precision. Repetitions are few and the energy requirements of the movement schemes are within safe limits for any am-

bulatory person, regardless of age. Each scheme is described in detail and is accompanied by suggestions for its practical applications to the activities of daily living. The entire section is copiously illustrated with figure drawings.

The book will be of particular interest to physical therapists dealing with patients recovering from debilitating diseases or whose age or cardiac efficiency preclude more strenuous exercise. Although written for the lay person, it seems unlikely that the average person would apply himself with the patience and attention to detail which the system requires for optimum results. The necessary precision of movement could scarcely be achieved without careful supervision. Despite this the lay reader would definitely benefit by a better understanding of the mechanics of his body and a sharper awareness of his own movements. Certainly this first general introduction of the Mensendieck System to the American scene should be of interest to all physical therapists.

Principles of Occupational Therapy. *By Helen S. Willard, B.A., O.T.R., Professor of Occupational Therapy, University of Pennsylvania School of Auxiliary Medical Services, Philadelphia School of Occupational Therapy—and Clare S. Spackman, M.S., O.T.R., Associate Professor of Occupational Therapy, University of Pennsylvania School of Auxiliary Medical Services; Director, Curative Workshop and Director of Occupational Therapy Department, Hospital of the Graduate School of Medicine, University of Pennsylvania; Assistant Director, Philadelphia School of Occupational Therapy. Second Edition, Cloth; price $5.50. Pp. 376; illus. J. B. Lippincott Co., Philadelphia, 1954.*

Those who welcomed the previous edition of this book, which has been the standard text for occupational therapy students since its publication in 1947, will be more than happy with this revised edition. It has been extensively expanded and in part rewritten to keep up with the rapid developments in the field of occupational therapy.

The editors, who are director and assistant director respectively of the Philadelphia School of Occupational Therapy, are well qualified by experience to select those topics of most importance, and to persuade those most qualified to write on them; indeed the roster of authors looks like an abbreviated Who's Who of the profession.

The book is divided into two parts: section 1 covers the basic concepts and includes a very useful discussion of the administration of an occupational therapy department; the second and by far most descriptive and complete section deals with applied principles in the treatment of the mentally ill, patients in general, and children's hospitals. It also includes chapters on the treatment of the tuberculous, the visually handicapped, and the geriatric patient. A substantial emphasis is placed on the treatment of patients with physical disabilities.

The clear and simple print, and good collection of new photographic illustrations make it a convenient volume to consult. Charts and line drawings clarify some points, and very complete bibliographies end each chapter, adding to its value for student and teacher. Since this is a compilation of the work of a number of authors, there is some variation in style. It is however a representative and trustworthy discussion, both in the facts presented and in the point of view.

Legg-Calvé-Perthes Syndrome and Related Osteochrondroses of Youth. *By Charles Weer Goff, M.D., Assistant Clinical Professor of Orthopaedic Surgery, Yale University School of Medicine, New Haven. In association with Ned M. Shutkin, M.D. and Myerma R. Hersey, M.S. Cloth; price $10.75. Pp. 332; illus. Charles C. Thomas, Springfield, Illinois, 1954.*

This book includes everything known about Legg-Calvé-Perthes syndrome, and there is still no clue for prevention of the syndrome. The theory of multiple causation permeates the material presented. The author emphasizes that different patterns of healing do occur. The syndrome is not consistent, either in cause, or course.

Dr. Goff is well qualified to present this material. He has gathered much data concerning genetics, growth and development and other anthropometric information. He has been doing this for years and has correlated those findings with the children observed who have Legg-Calvé-Perthes syndrome. His attitude is philosophical and yet, scientific. The authors have prepared a reference book which includes much basic material concerning the hip joint, the osteochondroses in general, as well as LCPS.

The book is rambling in certain chapters, but in general, is to the point. Illustrations are excellent and the roentgenograms have been selected and reproduced carefully. They show effectively what the author is emphasizing.

The physical therapist and physician will be interested in the recumbency frame for accomplishing prolonged nonweight bearing.

The bibliography covers all the available material on the subject. The paper is of excellent quality and the printing is easily read.

How to Work With Your Board and Committees. *By Louis H. Blumenthal, Executive Director, San Francisco Jewish Community Center. Hard cover; price $1.00. Pp. 64; Association Press, New York, 1954.*

This book is included in the Leadership Library published by the National Council of the YMCA's of the USA. The Leadership Library is designed to bring down-to-earth information on leadership to people of responsibility. The books are guideposts to leadership for volunteer workers and teachers, committees and board members in church groups, Y's, civic organizations, PTA's, Women's Clubs, Scout groups, fraternal societies, 4-H Clubs, and groups of any kind or size.

The author of *How to Work with Your Board and Committees* has had thirty years experience as an agency administrator and long experience as participant-observer as a board or committee member in a wide variety of organizations. Mr. Blumenthal has published at least two other books on group work.

In six short well outlined chapters, the author has pointed out that workers and board members need each other's support — a support that is more likely to be gained when each is sensitive to the attitudes, the thinking, and the working methods of the other. Their potentialities can develop not only from such mutual understanding but also from a mutual recognition of the supplementary character of their respective functions.

The author believes such development is possible only when the association of the board and staff is

characterized by a sense of partnership in the totality of responsibilities which are agency-centered. It is this sense of partnership-mutual consultation, free and critical discussion, a wholesome process of give-and-take and a mutual recognition of the complementary roles of each, which is repeatedly stressed.

This book is intended for social workers and board-committee members in voluntary social agencies. It should prove equally useful to those working in other types of organizations where board-staff relationships are involved.

The pocket-size, the print and paper used in the mechanical make-up contribute to making it a very readable little book.

Adapted Physical Education. Principles and Practice of Physical Education for Exceptional Students. *By Arthur S. Daniels, Professor of Physical Education, Ohio State University; Chairman of A.P.E. Committee for American Association for Health, Physical Education and Recreation. Member of Joint Committee of the N.E.A. and International Council for Exceptional Children. Cloth; price $6.00; Pp. 538. Harper Brothers Co., New York, 1954.*

Professor Daniels' diversified experience in the field of physical education, and his insight, appreciation, and understanding of the physical, psychological, and social problems of the student with a disability make *Adapted Physical Education* a comprehensive and authoritative contribution to those particularly concerned with the full educational responsibilities and total development of the exceptional person.

It is a textbook and manual worthy of occupying a place on the desk of every school administrator, special teacher, teacher and administrator of physical education, therapist, and physician who is confronted with the problems of the physically handicapped student and his development.

The author's statement that "The handicapped are ordinary people with extraordinary needs" and the fact that "Eighty-nine percent of the estimated four million exceptional children of school age in this country are attending regular schools" is self-evident that a great responsibility and challenge does exist to meet the needs of these students. The book is not only a plea for greater recognition and understanding of the total needs of the exceptional student in our educational system, but a presentation by which these needs can be helped to be fulfilled by the contribution that adapted physical education can make to the educational program. The author believes the teacher of physical education is in a particularly strategic position in this undertaking, working in close relationship with the school administrator, physician, and family. He holds the key by which the door of opportunity may be unlocked and opened wider for the handicapped student, rather than closed and locked by excusing the student from any participation as has been done too much in the past. This can be accomplished through a carefully planned and prescribed "individualized program" of physical education adapted to the needs of the person.

"The author has three major purposes in mind: (1) To indicate means whereby the full educational services of physical education may be made available to exceptional students on all school levels; (2) to provide a practical guide for physical education teachers and administrators who are working earnestly for the maximum development of each pupil entrusted to their care; (3) to provide a preservice and in-service text for teachers, recreation leaders, and therapists in a phase of physical education which needs greatly extended development."

The book is divided into three parts. Part I is devoted primarily to defining the problems and complex adjustments, in general, confronting the individual with a disability in terms of not only physical, but psychological and social development in school and society. There is also a brief historical review of the handicapped and the lack of proper recognition suffered by the handicapped until recent years.

Part II sets forth specifically, the principles of organization and administration of adapted physical education, stating aims and objectives in terms of the nature of the person's disability. It also emphasizes the necessity of additional specialized training for the teacher of adapted physical education and specifically what professional education this should involve. It would seem that opportunities and facilities for all the desired training indicated might be limited at times. In addition to the educational requirements, it includes a discussion of the many qualities one must possess to be successful in this specialized field. Instructor-student rapport cannot be overemphasized.

The chapter dealing with "The Adapted Program in Action" includes definite administrative procedures, all of which would be valuable information to the teacher of adapted physical education, setting up specific programs of adapted physical education at all school levels. There is a comprehensive and complete discussion of both aquatics and camping which should prove particularly interesting to the physical therapist.

Professor Daniels' approach to the whole problem is a positive one, minimizing the student's awareness of his disability by capitalizing on his remaining abilities through constructive and carefully planned "individualized physical education." His repeated emphasis of the importance of the endorsement and prescription of the physician for all such individualized programs reveals the soundness of the author's approach in setting up such a program and the need of a physician's knowledge in properly evaluating activity participation.

Part III—the author presents a review of anatomy, kinesiology, and physiology of exercise as well as a discussion of the major types of disabilities. The coverage of this material represents extensive research and accurate information and would be equally helpful as a supplementary reference book to a physical therapy instructor conducting an introductory course in conditions and diseases. The inclusion of this material is in no way designed or intended for diagnostic purposes, but simply to stimulate, guide, and reinforce the teacher of adapted physical education with material which will be helpful in evaluating the student's physical problems and the consequent limitations that, of necessity, must be considered in setting up the individual's program of adapted physical education with the medical advice of the physician.

The last chapter of the book is a presentation of the complex social and economic aspects of the handicapped following school and college, as he takes his place as a citizen in his community and finds himself surrounded by the multiple pressures and demands of society.

The book, if interpreted as intended by the author, will serve as a guide for the physical education teacher and worker "within their respective professional bounds."

"Professional bounds" needs clarification, for those who have had the opportunity to work with the adult handicapped are aware that "professional bounds," particularly in the team work of rehabilitation often are not too clearly defined. Whatever the reason, it seems imperative that the sole responsibility must rest in the hands of the physician who should clearly designate the bounds. It is he who has the responsibility of differentiating between therapeutic measures in terms of disabilities and adapted physical education in terms of remaining abilities. Each of these categories should be clearly defined in terms of physical restoration of function and assigned specifically to the particular personnel trained for each.

From a physical therapist's point of view, a reader of the book might be confused by the variety of terms used in the text referring to physical therapists in most instances, but to physiotherapists and technicians occasionally—the latter two of which have been generally discarded within recent years in the United States.

The book is studded with selected bibliographies and the content of the book indicates much research, organization, and planning. The style of writing is interesting and effective. The sixteen attractive plates illustrate the diversity of possible activities and animate the text with their human interest appeal, as do the descriptions of some of the psychological problems encountered by persons who have acquired a disability.

No attempt has been made to cover all the detailed material contained.

Adapted Physical Education merits thoughtful consideration and analysis in all its aspects by physical therapists in general, and particularly by those interested in the functional and recreational programs of the physically handicapped.

How to be a Modern Leader. *By Lawrence K. Frank. Hard cover; price $1.00. Pp. 62. Association Press, New York, 1954.*

How to be a Modern Leader is one of several small volumes comprising the Leadership Library, a library of the National Council of YMCA's designed to bring the best insights, experience, and research to the volunteer, part time worker, and officer in any kind of group. The aim is to help leaders to become better leaders and to give assistance in the development of new leaders.

The book deals with such topics as types of leadership, qualities common to all leaders, the meaning of organization, dynamics of the leadership process, common problems in leadership, leadership in action, and leadership as personal development.

The emphasis throughout the book is on democratic leadership in which there is no substitute for sincerity, generosity, and genuine respect for others. The leader's role involves a continuous endeavor to build up each individual member's self confidence and to increase his self respect and personal dignity. The leader must understand and accept the differences in cultural patterns of the individuals in the group which may lead to tension and must show faith in each member of the group. The need of the members for a feeling of belonging, of sharing and finding approval in the group is shown to be important. We are told that one of the initial steps in working with a group is to evolve some kind of group purpose so that the individuals comprising the group will be able to share and organize themselves into a functioning whole, oriented to common goals. Finally, the leader who helps his group through experiences which foster individual development and capacity for group living, learning, and working with others is helping to maintain a free country. Leadership becomes a shared dynamic process in which the potentials of individuals are released in the attainment of common goals.

The philosophy of leadership as presented in *How to be a Modern Leader* is sound. The background necessary for understanding group dynamics is well described. The types of leadership which are explained in Chapter I and referred to occasionally in other portions of the book appear to be stereotypes rather than present fact. Except for the chapter on "Common Problems of Leadership," there is little in the way of information on technics of practical value on how to be a modern leader. Because of the limited scope of the volume, it is felt by the reviewer that the leader in industry or in the professions would need to tap many other sources of information on the subject in order to function adequately. For the beginner in the role of leadership or for a club worker, *How to be a Modern Leader* will serve as a sound orientation when used in combination with the other pocket guides of the Leadership Library.

An Introduction to Physics in Nursing. *By Hessel Howard Fletter R.N., A.M., Assistant Professor and Director of Science Instruction, School of Nursing, University of Pennsylvania. Second Edition. Paper; price $3.50. Pp. 208; illus. C. V. Mosby Co., St. Louis. 1954.*

This book meets a great need — that of giving nurses and other medical personnel a brief but thorough review of physics — and meets it well.

The book is conveniently laid out both for study and for reference. Each principle of physics is discussed as a unit and then its application to nursing is given. At the end of each unit there is a summary, a list of guide questions for study and a list of references.

There is an appendix containing suggested laboratory exercises which apply most of the principles to nursing, a list of commonly used abbreviations that is very complete, a list of signs and symbols, and a glossary. These are all especially good for reference.

Most of the illustrations are well done but a few are rather poor although adequate.

This book would be an excellent review for physical therapists if supplemented with a more detailed section on electricity as the unit on electricity is very meager.

The reviews here published have been prepared by competent authorities and do not represent the opinions of the American Physical Therapy Association.

Abdominal Fascial Transplants

In response to requests from physical therapists, reprints of the second chapter of Dr. Charles LeRoy Lowman's monograph on Abdominal Fascial Transplants may now be purchased from Fowler Brothers Bookstore, 414 West 6th Street, Los Angeles, California at 75¢ each.

This section of the monograph deals with Kinetic Analysis of Trunk Paralysis, Function of Abdominal Wall and Analysis of Transplants and is helpful in teaching and study of trunk problems.

Our Book Reviewers for July

Beryl B. Bilderback, formerly Instructor, Division of Physical Therapy School of Auxiliary Medical Services, University of Pennsylvania, Philadelphia.

Eleanor J. Carlin, Assistant Director, Division of Physical Therapy, School of Auxiliary Medical Services, University of Pennsylvania, Philadelphia.

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J. Leonard Goldner, M.D., Associate Professor Orthopaedic Surgery, Duke University School of Medicine, Durham, North Carolina.

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Caroline Goss Thompson, O.T.R., Assistant Professor of Physical Medicine, University of Wisconsin, Madison.

Beatrice Whitcomb, Major, WMSC, Chief, WMSC Assignment Section, Personnel Division, Office of The Surgeon General, Washington, D. C.

Classified WANT-ADS

IMMEDIATE PLACEMENT for qualified therapists in 140-bed rehabilitation center of all age levels; treating postacute and convalescent polio; orthopedic, neuromuscular and musculoskeletal disorders. Good opportunity for initiative. Congenial working conditions with cooperative staff. Excellent facilities; therapeutic indoor and outdoor pools. P.T. and O.T. Clinical training center gives opportunity for teaching and supervision to those interested. Also, for Assistant Chief to help plan and build program for Graduate School Department medically supervised by American Board Physiatrist. Five-day week with paid vacation. Laundry furnished. Write: Medical Director, Dr. Odon F. von Werssowetz, Warm Springs Foundation, Gonzales, Texas.

QUALIFIED PHYSICAL THERAPIST needed for staff position in children's orthopedic hospital. State registration required. Good salary, maintenance optional; 15 days' vacation; 15 days' sick leave, 40-hour week. Contact Dr. W. L. Minear, Chief Surgeon, Carrie Tingley Hospital for Crippled Children, Truth or Consequences, New Mexico.

POSITION: Physical therapist for new cerebral palsy center. If person has had sufficient experience, directorship will be open also. Apply to Mrs. Thomas Owen, Amarillo Cerebral Palsy Center, Amarillo, Texas.

WORK IN SOUTHERN CALIFORNIA. Physical therapists needed at Rancho Los Amigos Respiratory Center for Poliomyelitis, West Coast center for post polio care, and general medical and rehabilitative activities at this hospital. New building and most modern equipment available. All aspects of rehabilitation including pool therapy for polio patients. Inservice training program under the direction of an instructor of physical therapy. Permanent employment with Civil Service rights including paid vacation, sick benefits, holidays, and retirement benefits. Write: Personnel Director, Rancho Los Amigos, Hondo, California.

WANTED: QUALIFIED PHYSICAL THERAPIST for treating orthopedic patients, work divided between orthopedic clinic and hospital. Polio center for southwest Okla., salary dependent on experience, 40-hour week. Contact: Dr. C. S. Graybill, 1202 Arlington, Lawton, Oklahoma.

WANTED IMMEDIATELY: QUALIFIED PHYSICAL THERAPIST for general physical medicine, rehabilitation in outpatient center. Five-day week, 3 weeks' paid vacation, 6 holidays, sick leave, social security. Salary dependent upon experience. Write: Gloria J. Fitzpatrick, RPT, Director, Ingham County Curative Workshop, 615 North Capitol, Lansing, Michigan.

IOWA METHODIST HOSPITAL, Des Moines, Iowa, needs qualified physical therapist. Hospital has 400 beds, including 100-bed Raymond Blank Memorial for Children. Postpolio cases and in- and outpatient work. Competent professional staff and assistants, excellent working relationships. Apply: Bruce D. Root, Personnel, Director.

WANTED: QUALIFIED PHYSICAL THERAPIST with R.N. (preferred not required) for home treatment program administered by Visiting Nurse Association. Salary dependent on experience and qualifications; yearly increments on recommendation of superior; advancement possible. Twenty work days' vacation, fifteen days' sick leave yearly. Please write: Director, Visiting Nurse Association, 35 Elm Street, New Haven 10, Connecticut.

PHYSICAL THERAPIST WANTED, male or female. To head modern dept. completed in 1953, in 240-bed institution. Pleasant college town. Good salary and personnel policies. Apply to Frank G. Sheffler, Adm. Reid Memorial Hospital, Richmond, Indiana.

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Classified WANT-ADS

WANTED: Physical therapist for 250-bed general hospital in resort city. For details write Director, James Walker Memorial Hospital, Wilmington, N. C.

Physical Occupational Therapists
Field openings in State Crippled Children Program. Full team approach. Adequate consultation — one year experience with children required. Generous vacation, insurance, retirement benefits. Send resume and salary requirements to: Personnel Officer, State Health Dept., Hartford, Conn.

EXPERIENCED PHYSICAL THERAPISTS, preferably male, desired for itinerant program in Florida. Challenging opportunity to develop and expand program on state-wide basis. Apply to Lisle Reese, State Director, Florida Society for Crippled Children, 515 S. Orange Ave., Orlando, Fla.

WORK IN TEXAS. Physical therapists needed at neuromuscular rehabilitation center; new air-conditioned building; all modern equipment; three-level pool; corrective gymnasium; assistive personnel. Real opportunity for advancement to three qualified therapists, male and/or female. Contact Chief Physical Therapist, Richard E. Freeburg, Hedgecroft, 5120 Montrose Blvd., Houston, Texas.

PERMANENT STAFF POSITION FOR PHYSICAL THERAPIST. Graduate of accredited school, good starting salary with regular increases; to work with children up to 21 years of age. Forty-hour week, vacation with pay, sick leave, etc. 100-bed-orthopedic hospital; new modern equipment. Write to Miss Anna B. Quinn, R.N., Administrator, Kosair Crippled Children Hospital, 982 Eastern Parkway, Louisville 17, Kentucky.

Washington Elk's MOBILE PHYSICAL THERAPY PROGRAM needs 2 qualified therapists to work with cerebral palsied and other orthopedic conditions. Home and center therapy with parent instruction. Restricted area of travel. Station wagon and expenses allowed when traveling. Excellent salary, paid holidays, sick leave, 2 weeks' paid vacation and other benefits. Contact H. Norman Hommas, Physical Therapy Supervisor, 121 East 23rd Avenue, Olympia, Washington.

PHYSICAL THERAPIST for active, well equipped department in teaching hospital affiliated with Northwestern University. Located in pleasant residential suburb Lake Michigan. Forty-hour week. Good salary. Apply: Personnel Director, Evanston Hospital, Evanston, Illinois.

PHYSICAL THERAPIST with at least 2 years experience required by a Voluntary Public Health Visiting Nursing Organization. For further information apply District Director, Victorian Order of Nurses, 1246 Bishop Street, Montreal, Canada.

WANTED: A QUALIFIED STAFF physical therapist, female, for well equipped department in a modern 275-bed general hospital with outpatient service; paid vacation; sick leave; 6 holidays; salary open. Apply Robert M. Murphy, Administrator, Lima Memorial Hospital, Linden and Mobel Streets, Lima, Ohio.

PHYSICAL THERAPISTS — California state government offers attractive salaries and choice of location to qualified therapists who are graduates of recognized school of physical therapy. Immediate employment for men at Veterans Home, near Napa, and also for men and women at hospitals for mentally ill and cerebral palsied children. Mail applications for nationwide civil service exam by August 2, 1955. Write Recruitment Section, State Personnel Board, 801 Capitol Avenue, Sacramento 14, Calif.

WANTED: ASSISTANT THERAPIST. Good opportunity for recent graduate. Fully equipped department. Living quarters available. Two weeks vacation. Building program. Write Personnel Director, Memorial Hospital, Casper, Wyoming.

PHYSICAL THERAPIST: In hospital-school for rehabilitation of children with orthopedic handicaps. Complete interesting program. Good salary, merit increases. Annual paid vacation, sick leave, excellent retirement plan. Write Vera E. Dennis, Director of Physical Therapy, Illinois Children's Hospital-School, 2551 N. Clark, Chicago 14, Ill.

Classified WANT-ADS

RATES

The rate per insertion is 75c per line. Typewrite your advertisement carefully and count 50 characters and spaces per line.

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Closing date for copy and cancellations is two months preceding publication date.

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Address replies to ..... care of The Physical Therapy Review, 1790 Broadway, New York 19, N. Y.

IMPORTANT

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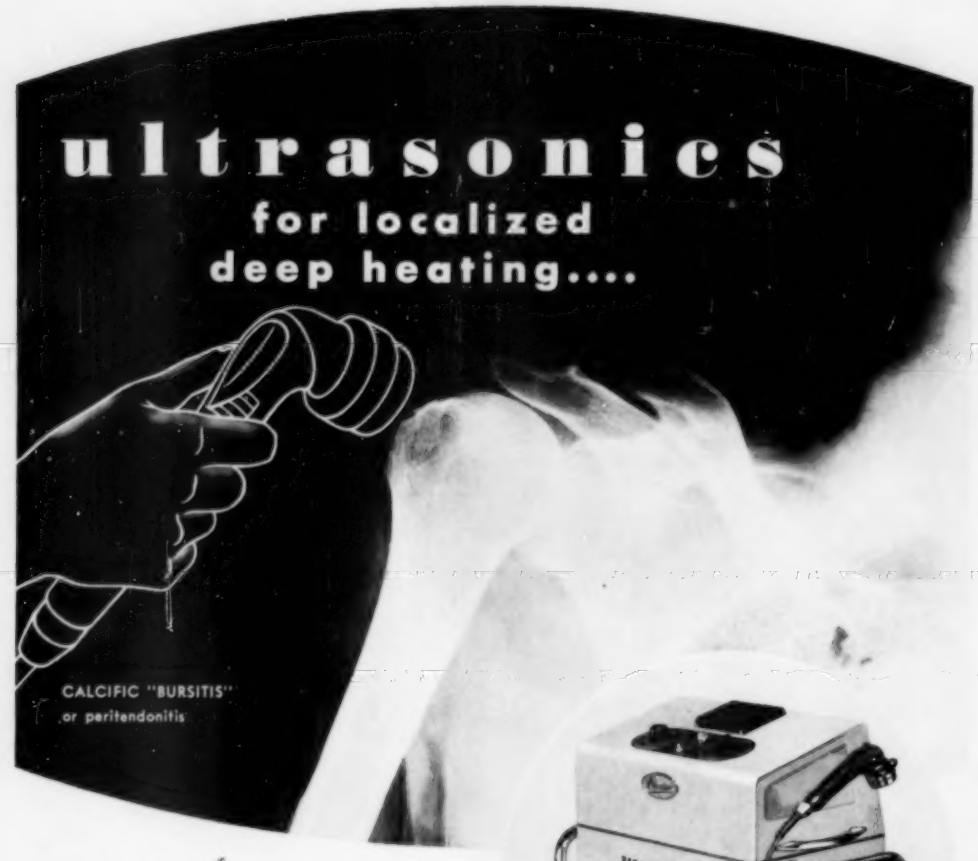

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